Infinity

Interlude Series

IL100s Subwoofer

Service Manual

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Woodbury, New York 11797

REV 11 10/2005

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Specifications

IL100s Frequency Response:	32Hz - 150Hz (±3dB)
Maximum Amplifier Output:	250 watts (20Hz - 150Hz with no more than 0.1% THD**)**
Crossover Frequencies:	50Hz - 150Hz, 24dB/octave, continuously variable
Driver:	10" C.M.M.D.
Dimensions (H x W x D):	13-3/4" x 13-1/2" x 17"
Weight:	32 lb (14.5kg)
Optional Accessory:	
Bass Optimization Test & Measurement Kit:	Part Number: 335852-002

Detailed Specifications

LINE VOLTAGE	Yes/No	Hi/Lo Line	Nom.	Unit	Notes
US 120vac/60Hz	Yes	108-132	120	Vrms	Normal Operation
EU 230vac/50-60Hz	Yes	207-264	230	Vrms	Normal operation, MOMS required
Asia 100vac/50Hz	No	90-110	100	Vrms	Normal Operation

Parameter	Specification	Unit	QA Test Limits	Conditions	Notes
Amp Section					
Type (Class AB, D, other)	AB	---		HC-BASH Power Supply	
Load Impedance (speaker)	4	Ohms		Nominal	Resistor Load
Rated Output Power	250	Watts	230	@50Hz, THD 15%, Limiter defeated	continuous for 3 second
THD@ 170W	5	%	10	22k filter, 50Hz, LPF "On"	
THD @ 1 Watt	0.1	%	0.5	22k filter, 50Hz, LPF "On"	
Polarity (Input vs Output)	0	deg.	0˚ ±20	In phase @50Hz, Phase Switch "0"	.250 faston (+).....205 faston (-)
DC Offset	1	mV-DC		@ Speaker Outputs	
Damping factor	>50	DF			
Input Sensitivity					
Input Frequency	50	Hz	50	Nominal Freq.	1 input driven
Line Input	35	dBr	±2	STO 1 Watt, @50Hz	LPF "On", BOS "Off"
Speaker/Hi Level Input	3	dBr	±2	STO 1 Watt, @50Hz	LPF "Off", BOS "Off"
Signal to Noise					
SNR-A-Weighted	120	dBr	100	relative to 170W Output	A-Weighting filter
SNR-unweighted	110	dBr	100	relative to 170W Output	22k filter
SNR rel. 1W-unweighted	90	dBr	80	relative to 1W Output	22k filter
Residual Noise Floor (Line Level Input)	1	mVrms(max)	3	>500kHz filter; test unit isolated from AP	
Residual Noise Floor (High Level Input)	2	mVrms(max)	5	>500kHz filter; test unit isolated from AP	
Input Impedance					
Line Input	10k	ohms		Nominal	
Speaker/Hi Level Input	1k	ohms		Nominal	
Active Filters					
Low Pass Filter (fixed or variable)	variable	--			
Frequency	50-150	Hz		80Hz @pot middle position, B-taper pot is required	
Slope	24	dB/Octave			
Q	Butterworth	Damping			
Subsonic filter (HPF)	fixed	--			
Frequency	43	Hz			
Slope	12	dB/Octave			
Q	1.02	Damping			
Line Out Filter (HPF)	no	--		Output to satellites	
Frequency	80	Hz			
Slope	12	dB/Octave			
Q	Butterworth	Damping			
Friend Circuit	fixed	--			
Frequency	62	Hz			
Av	-6.5	dB/Octave			
Q	2.675	Damping			
Parametric EQ (BOS)					
Frequency Pot	yes	--		21 detent pot (0.1 oct. steps)	
Range	20-80	Hz	functional		
Level Pot	yes	--	--	21 detent pot (0.5dB steps)	
Range	0 to -14	dB	functional		
Width(Q) Pot	yes	--	--	21 detent pot (5steps/0.1 octave)	
Range	0.05-0.5	octave	functional		
Features					
Main Power On/Off Switch	rocker	--	funtional		
Line/Spkr Input Select Switch	toggle	--	funtional		
Polarity Switch	toggle	--	funtional		
BOS Bypass Switch	toggle	--	funtional		
Low Pass Filter Switch	toggle	--	funtional		

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Detailed Specifications (Cont.)

Parameter	Specification	Unit	QA Test Limits	Conditions	Notes
Signal Sensing (ATO)					
Auto-Turn-On (yes/no)	yes	--		Under the condition that bias power never exceed 15W	
ATO Input Frequency	50	Hz			
ATO Level	3/100	mV	10/120	@50Hz into single Line/Speaker Input	LPF "On", BOS "Off"
ATO Bandwidth	400	Hz	450	ATO-LPF for noise immunity	LPF "On", BOS "Off"
ATO Turn-on time	5	ms	10	Amp connected and AC on, then input signal applied	
Auto Mute/ Turn-OFF Time	15	minutes	20	Time before muting, after signal is removed	
Power on Features					
Power on Delay time	2	sec.	3	AC Power Applied	
Power on LED	yes	--		Bi-color LED located at front	
Normal On	green	color			
ATO	red	color		"Active": green; "Standby": red	
Transients/Pops					
ATO Transient	10	mV-peak	N/P	@ Speaker Outputs	
Turn-on Transient	100	mV-peak	1V-pp	@ Speaker Outputs	AC Line cycled from OFF to ON
Turn-off Transient	100	mV-peak	1V-pp	@ Speaker Outputs	AC Line cycled from ON to OFF
Efficiency					
Stand-by Input Power	12	Watts	15	@ nom. line voltage	
AC Power Cons.@1W	19	Watts	22	@ nom. line voltage	
Power Cons.@170W	290	Watts	310	@ nom. line voltage	
Efficiency	58	%	54	@ nom. line voltage	
Protection					
Short Circuit Protection		--	functional	Direct short at output	
Thermal Protection		--	functional	@1/8 max unclipped Power	
DC Offset Protection		--	functional	DC present at Speaker Out leads	
ESD Protection		--	functional	ESD 15kV test apply to all input terminals	
Line Fuse Rating	3	Amps		Type-T or Slo Blo	External fuse with UL/SEMKO rated holder

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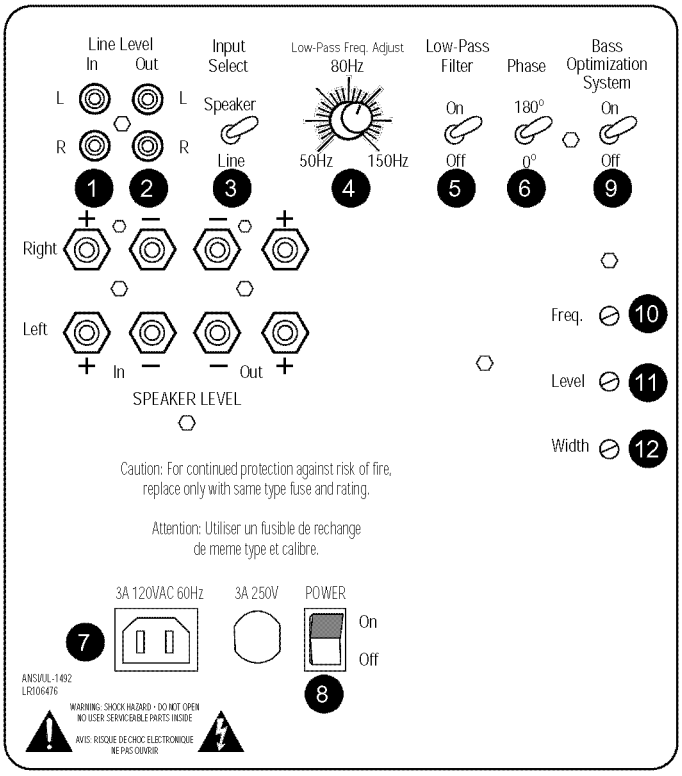
Controls and Connections

Rear Panel

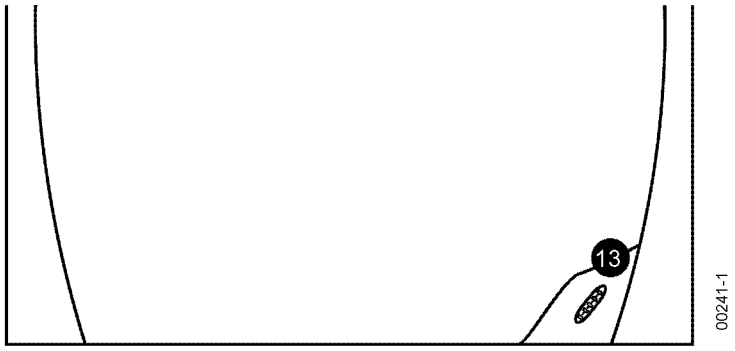


1. Line-Level Inputs
2. Line-Level Outputs
3. Input Selector
4. Low-Pass Frequency Adjustment
5. Low-Pass Filter Selector
6. Phase Switch
7. AC Cord Input
8. Power Switch

Bass Optimization Controls

9. Bass Optimization System Selector
10. Center-Frequency Adjustment
11. Bass Optimization System Level
12. Bandwidth Adjustment

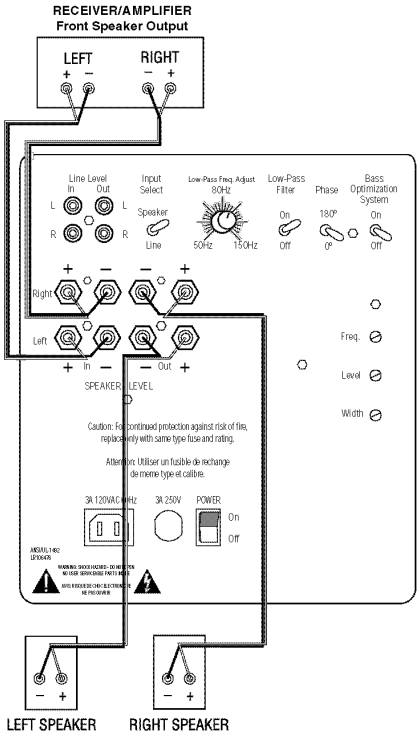
Front Panel



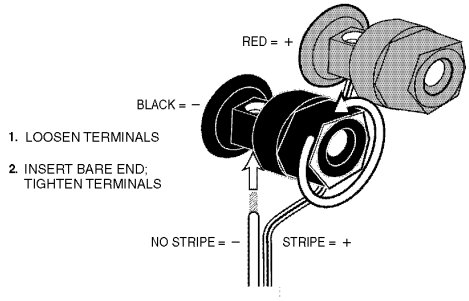
13. Subwoofer-Level Control

Connections

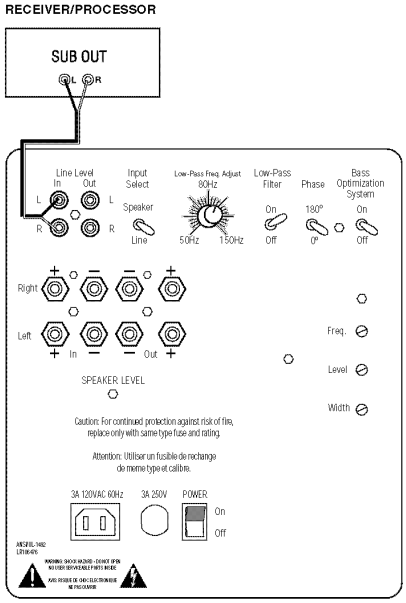
If your receiver/processor does not have subwoofer outputs for the left and right channels or an LFE output:



- Set Input Selector to " Speaker"
- Set Low-Pass Filter to " On."



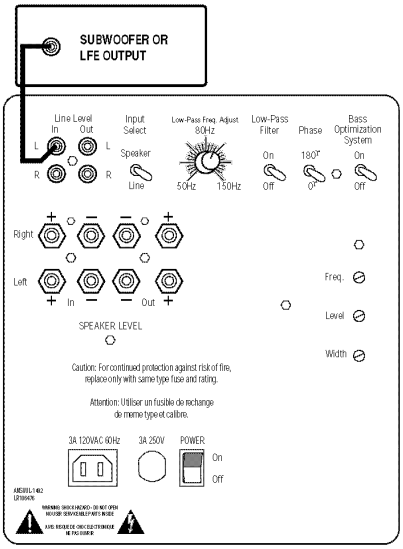
If your receiver/processor has subwoofer outputs for the left and right channels:



- Set Input Selector to " Line."
- Set Low-Pass Filter to " On".

NOTE: Some receivers have a single subwoofer output (do not confuse this with a single LFE output as described below). In that case, it is recommended that you use a Y connector (not included) to maximize performance.

If you have a Dolby* Digital or DTS® receiver/ processor with a low-frequency-effect (LFE) output:



- Set Input Selector to " Line."
- Set Low-Pass Filter to " Off"

NOTE: In this case, you do not need to use a Y connector. Simply connect the LFE output on your receiver/processor to either the left or right input on the subwoofer.

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Operation

Power On

Plug your subwoofer's AC cord into a wall outlet. Do not use the outlets on the back of the receiver.

Initially set the subwoofer's Level Control ⓭ to the "0" position.

Turn on your sub by pressing the power button ❽ on the rear panel.

Turn on your entire audio system and start a CD or movie soundtrack at a moderate level.

Adjust Gain

Turn your subwoofer's Level Control ⓭ up to the "5" position (half way). If no sound emanates from the subwoofer, check the AC-line cord and input cables. Are the connectors on the cables making proper contact? Is the AC plug connected to a "live" receptacle? Has the power button ❽ been pressed to the "On" position? (Note: The Level Control on the front panel will turn green when the power is on.) Once you have confirmed that the subwoofer is active, proceed by playing a CD, record or cassette. Use a selection that has ample bass information.

Set the overall volume control of the preamplifier or stereo to a comfortable level. Adjust the subwoofer's Level Control ⓭ until you obtain a pleasing blend of bass. Bass response should not overpower the room but rather be adjusted so there is a harmonious blend across the entire musical range. Many users have a tendency to set the subwoofer volume too loud, adhering to the belief that a subwoofer is there to produce lots of bass. This is not entirely true. A subwoofer is there to enhance bass, extending the response of the entire system so the bass can be felt as well as heard. However, overall balance must be maintained or the music will not sound natural. An experienced listener will set the volume of the subwoofer so its impact on bass response is always there but never obtrusive.

Crossover Adjustments

Low-Pass Frequency Adjustment Control ❹ – The Low-Pass Control determines the highest frequency at which the subwoofer reproduces sounds. If your main speakers can comfortably reproduce some low-frequency sounds, set this control to a lower frequency setting, between 50Hz – 100Hz. This will concentrate the subwoofer's efforts on the ultradeep bass sounds required by today's films and music. If you are using smaller bookshelf speakers that do not extend to the lower bass frequencies, set the Low-Pass Frequency Adjustment Control to a higher setting, between 120Hz – 150Hz.

Note: This control will have no effect if the Low-Pass Filter Switch ❺ is set to "Off." If you have a Dolby Digital or DTS processor/receiver, the Low-Pass Frequency is set by the processor/receiver. Consult your owner's manual to learn how to view or change this setting.

Phase Control

The Phase Switch ❻ determines whether the subwoofer speaker's piston-like action moves in and out with the main speakers, 0°, or opposite the main speakers, 180°. Proper phase adjustment depends on several variables such as room size, subwoofer placement and listener position. Adjust the phase switch to maximize bass output at the listening position.

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Bass Optimization System™

Infinity's Bass Optimization System is a simple-to-use, yet sophisticated, low-frequency calibration system. Each Interlude subwoofer contains a parametric equalizer that you can adjust following the directions below. By following these instructions, you can improve the sound of your system.

The Bass Optimization System Goal

It is a fact of audio that what we hear at low frequencies is determined as much or more by the listening room than by the loudspeaker itself. Placement of the loudspeakers and listeners and the acoustical characteristics of the room surfaces are all important determinants of bass quantity and quality. In most practical situations, there is little that can be done about this, except for patient trial-and-error repositioning of the loudspeakers and listeners. Usually, the practical constraints of a living space and the impracticality of massive acoustical treatment mean that equalization is the only practical solution.

Professional sound engineers routinely employ sophisticated measurement systems and equalizers to optimize speakers to the installation. This was never practical for the home audiophile. This is why the Bass Optimization System was created. It enables you to identify the dominant low-frequency response characteristic of your room. Once you know the problem, the Bass Optimization System provides the tools needed to optimize the low-frequency characteristics of the speakers to the room they are in, exactly as the professional sound engineers do it.

Preparations

Before beginning the bass tests, please check the following:

- Make sure all three Bass Optimization System controls on the subwoofer are turned fully clockwise.
- Make sure the loudness contour (if any) on your receiver/processor/preamp is turned off.
- Set the tone controls (Bass and Treble) to their center or flat positions.
- Bypass all surround and effects features of your receiver/processor/preamp or set to Stereo Bypass.
- If you are using a multichannel surround processor or receiver, make sure all bass-management features are properly set. The Audio channels should all be set to "Small" or "High-Pass" and the subwoofer set to "On."
- Set the Bass Optimization System selector 9 to "On."

For best results, it is recommended that all major furnishings are in place and that all doors and windows in the listening area are in their normal positions. That is, if you normally listen to music with all doors closed, then this is how they should be during this procedure.

To solve a problem, it helps to first identify whether you have one and, if so, what it is. First, play a variety of music and films with energetic bass sounds, like bass guitar, kick drum, keyboards, etc. A kick drum should produce a tight "thump" not a flabby "boom". Bass melody or harmony lines should have notes that are about equally loud. If some notes disappear, or stand out because they are consistently too loud, there is a problem. Disappearing notes have to be handled by moving the listening position, or the loudspeakers, to slightly different locations. Often, but sadly not always, this will be enough. Excesses in bass tend to be most annoying, and energetic resonances that cause "boomy" or "lumpy" bass can be truly aggravating over a period of time. Infinity's Bass Optimization System can fix this.

So, the first step is to exercise your music collection, and listen for low-frequency problems that crop up in several different recordings. Something that only happens in one recording is likely to be a problem in the recording – it happens! If you identify something that is consistently wrong, select a record that shows it very clearly, and put your CD/DVD player into a repeat mode (A-B repeat is especially helpful, because you can isolate a short musical passage).

Set the Bass Optimization System Bandwidth adjustment 12 to a middle position (10 clicks from a fully clockwise position) and set Level adjustment 11 for a – 6dB (8 clicks from a fully clockwise position). Then, while the music is playing, sit in your favorite chair and have somebody else slowly adjust the Frequency control 10 from fully clockwise to fully counter-clockwise. At a certain frequency, you should hear the problem lessen and the overall bass performance improve. When you are satisfied that you have found the best frequency, have your assistant vary the Level 11 slowly up and down until you have maximized the improvement. If you have really keen ears, you can also have the Bandwidth control 12 adjusted for maximum benefit.

While the Bass Optimization System allows the listener to fine-tune the bass response to sound best in a particular room, some listeners don't have the skill or desire to adjust their system by ear. In order to facilitate quicker and more accurate results, Infinity has developed an optional test and measurement kit that allows the user to perform a series of measurements and aids him/her in properly setting the Bass Optimization System controls. With the addition of this kit, the Bass Optimization System becomes truly room-adaptive. The kit consists of the following: a test CD, a sound-level meter that is specifically calibrated for low frequencies, and something we call a "Q-Finder," a device to help find the width of the measured curve and, finally, a measurement template. It works as follows. The listener

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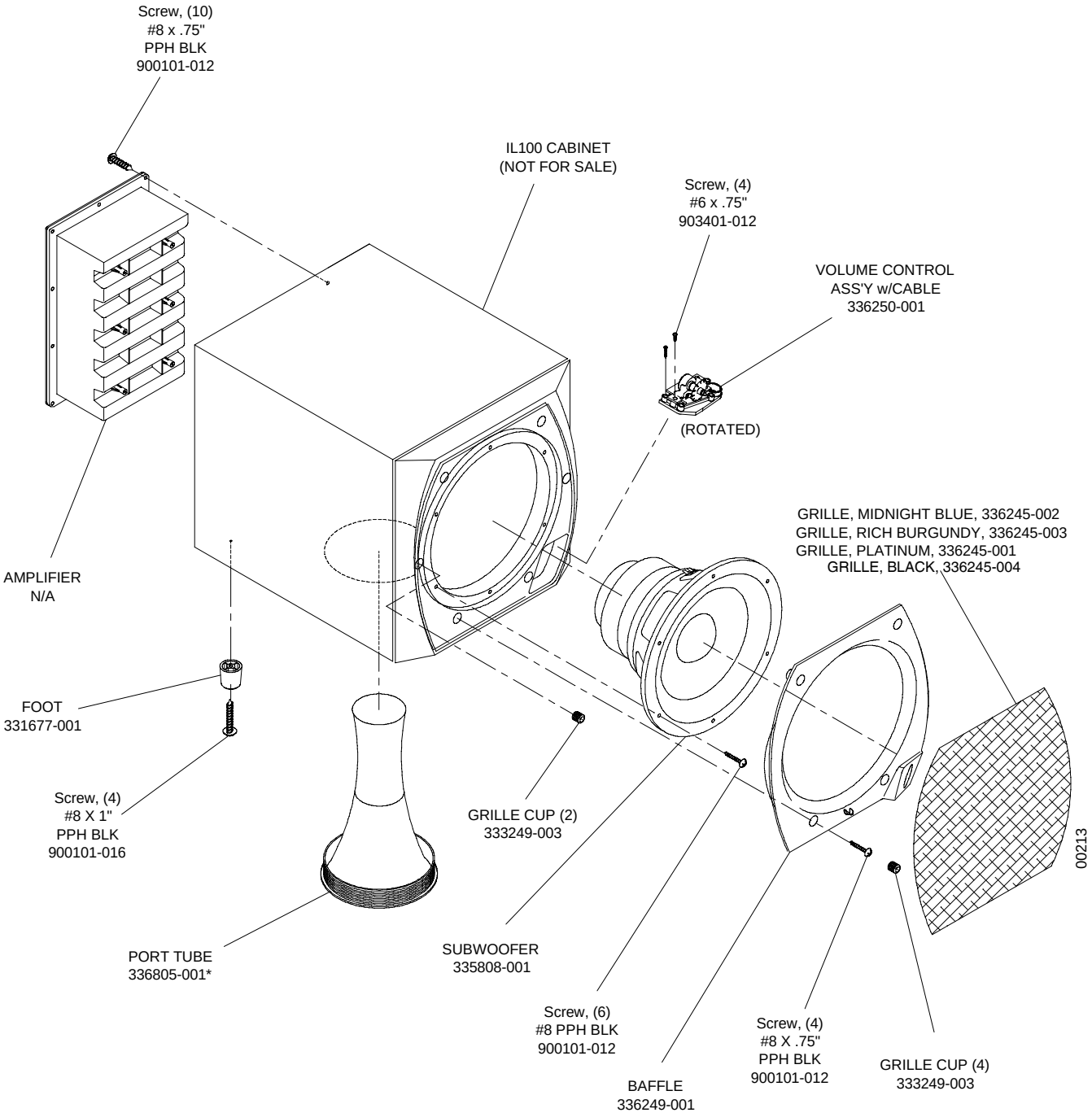
Bass Optimization System™ (Cont.)

plays the tones from the test CD and records the relative output level of each test tone, using the sound-level meter, on the provided measurement template. After all the tones are complete, the template contains a response curve for the frequencies below 100Hz. The user simply notes the frequency of the largest bass peak, calculates the correct amount of attenuation, and uses the "Q-Finder" to determine the width of the curve. These three values are dialed into the Bass Optimization System controls located on the speaker. The entire process takes less than twenty minutes.

If your dealer does not stock the Bass Optimization System test and measurement kit, you may purchase it directly from Infinity. U.S. residents can visit our Web site at www.infinitysystems.com or call 1-800-553-3332. Canadian residents should contact their dealer or call 1-800-567-3275.

Ask for Infinity part number 335852-002.

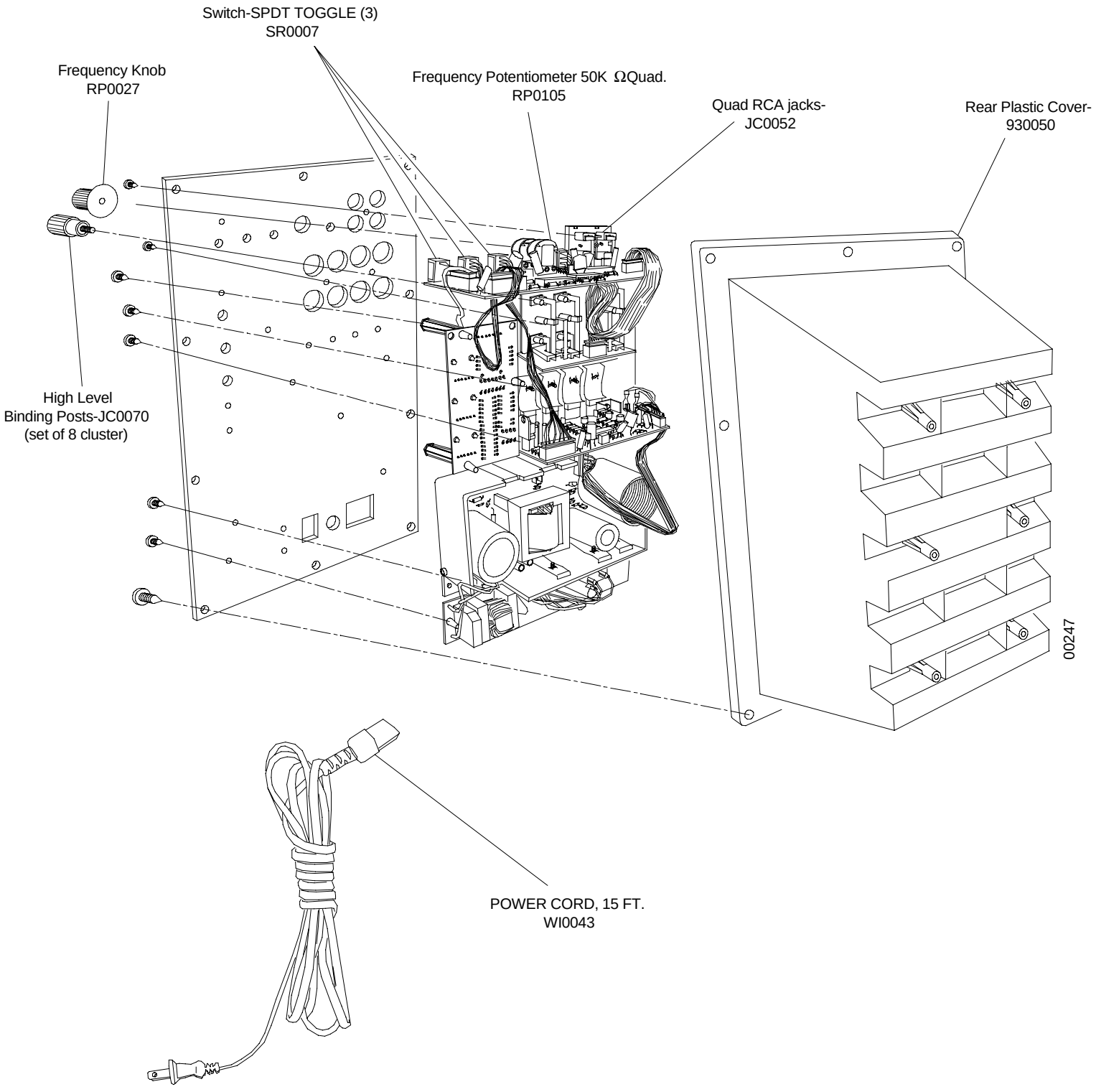
Exploded View



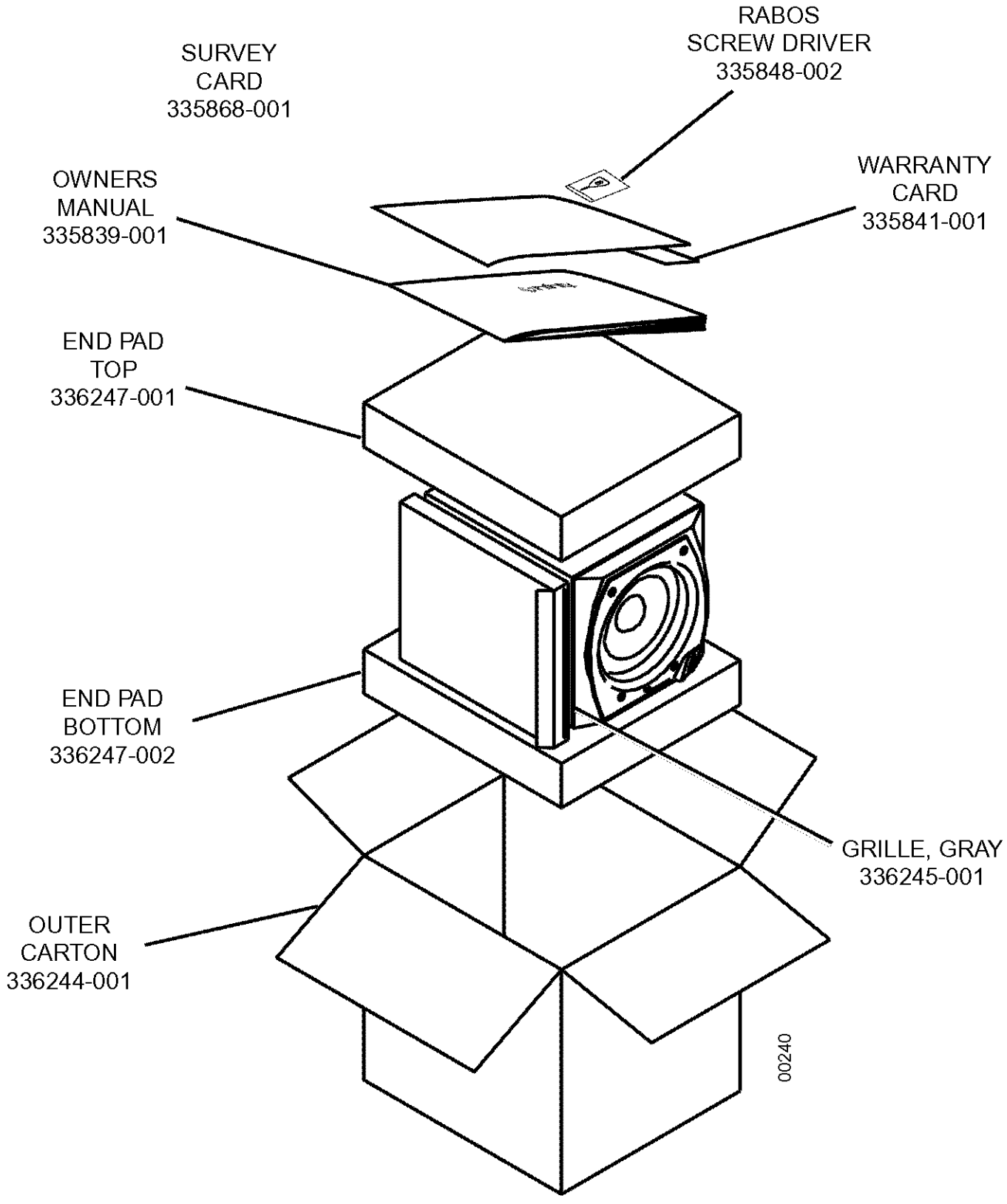
* On 9/1/2000 a new replacement port tube was included with the IL100s. Supplied part number reflects the new part. In addition, modified IL100s product w/ new port tube may be identified by the following serial number prefixes, which also appear on the amplifier faceplate and the carton barcode label:

IL100SBLK - NM0822-01001 and above
IL100SMPL - NM0823-01001 and above
IL100SCH - NM0824-01001 and above

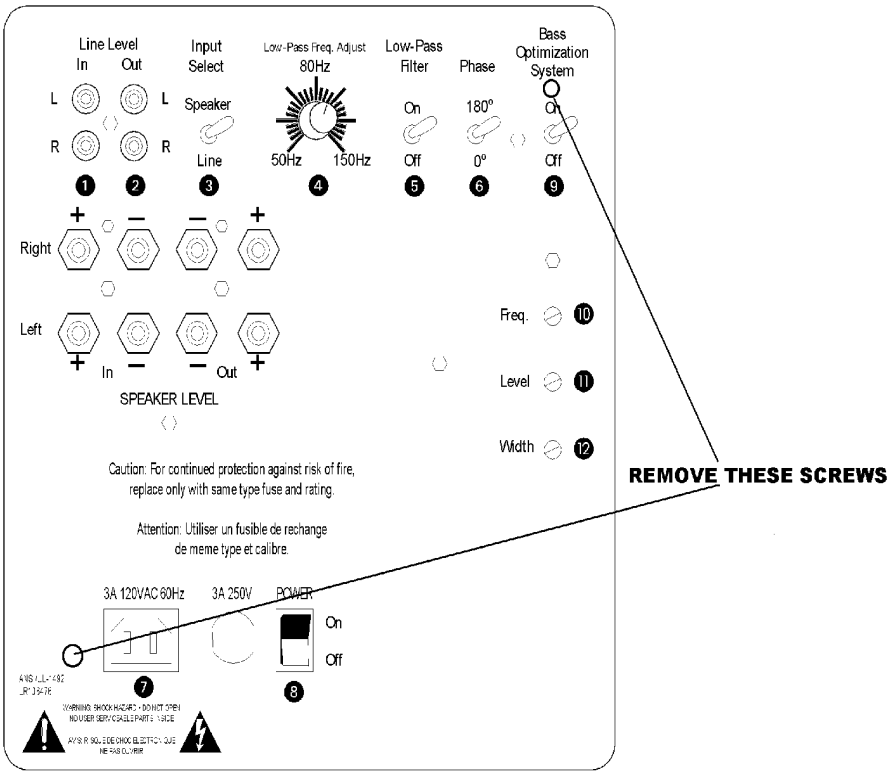
Exploded View of Amplifier



Packaging


RABOS
SCREW DRIVER
335848-002
SURVEY
CARD
335868-001
OWNERS
MANUAL
335839-001
WARRANTY
CARD
335841-001
END PAD
TOP
336247-001
END PAD
BOTTOM
336247-002
GRILLE, GRAY
336245-001
OUTER
CARTON
336244-001
00240

Service Tips for the IL100s subwoofer



GENERAL SERVICING

Disengage the plastic cover from the amplifier faceplate by removing the two screws shown in the illustration.

On earlier versions of the product, the internal wires were so short that after the plastic cover is detached, it will not pull away from the faceplate sufficiently enough for serviceability. In this case, the adhesive and wires protruding from the rear of the cover must be detached. When servicing is complete, the integrity of the rear cover once again must be made air-tight by applying hot-melt, silicon sealer, or similar adhesive to the openings. Failure to do this will result in an air leak and poor subwoofer performance.

In addition, take care to replace the rear cover exactly as it was taken off; there is an “UP” indicator molded into the rear cover. The cover is not symmetrical.

SERVICING THE VOLUME CONTROL PCB (part# 336250-001)

If the VOLUME CONTROL PCB has to be serviced for any reason:

1. Remove the grille.
2. Extract all (4) rubber grille retainers; this can be accomplished by carefully pulling them out of their cavities with long-nosed pliers or similar tool.
3. Remove the (4) Phillips screws that are now exposed.
4. Lift the front baffle off the cabinet; this exposes the VOLUME CONTROL PCB.
5. Remove the (3) plated mounting screws and unplug the molex connector from the PCB.
6. 10K Potentiometer part# is RP0097; LED part# is DL0014.

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Service Bulletin

Service Bulletin INF2002-02 - February 2002 | Warranty labor rate: MINOR repair

To: All Infinity Service Centers

Model: Interlude IL50, IL100s

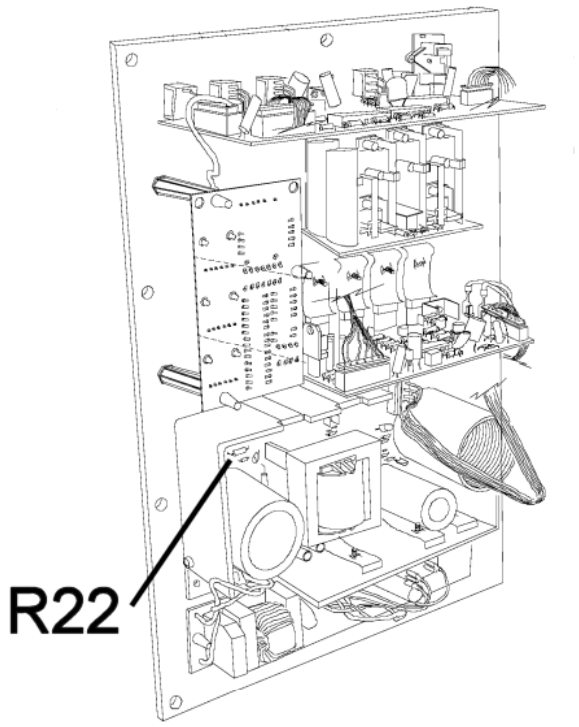
Subject: No Output

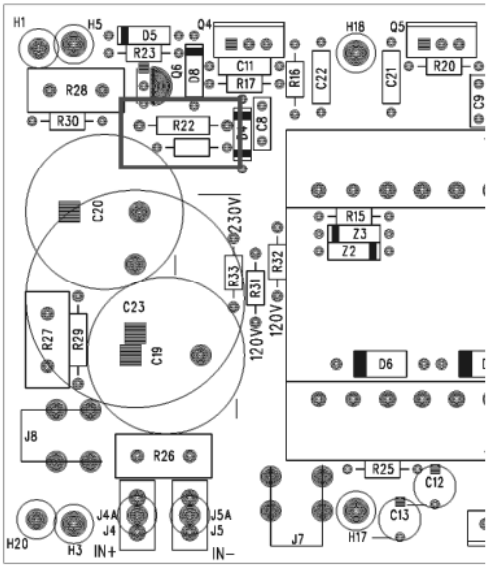
In the event you receive an Interlude IL50 or IL100s subwoofer with the complaint: "There is no output, and the LED on the volume control does not light, red or green", check the items listed below:

Check the 3A line fuse to make sure it's not open. If open, replace with a 3A MDL (.25 x 1.25) slo-blo fuse, Infinity part# 80126.

Locate R22 in the power supply section, as shown below.
If value of R22 is not 100k ohms ±5%, then replace R22 with a 1/2 Watt 100k ohm ±5%, resistor.

1. Remove the grille. Lay the subwoofer on its face on a padded surface, amplifier facing upwards.
2. Remove the 10 Phillips screws around the outer perimeter of the amplifier faceplate; remove the amplifier from the cabinet.
3. Remove two Phillips screws on the faceplate to remove the rear plastic cover; they are (1) the screw directly above the Bass Optimization switch and (1) to the left of the power cord receptacle; remove the amp cover.
4. Locate the power supply section and R22 from the illustrations below. R22 can be checked in-circuit and should be 100k ohms ±5%. If it is any other value, or open, replace with Infinity part# RC0082.
5. Reassemble the amplifier, rear cover, replace the amplifier in the cabinet and test the subwoofer.





Service Bulletin

Service Bulletin INF2002-07 Rev4 - October 2005 | Warranty labor rate: MAJOR repair

To: All Infinity Service Centers

Model: Interlude IL100s

Subject: Reliability Upgrade

PURPOSE: Improve reliability of the IL100s amplifier; this procedure should be followed for every unit that has to be serviced, for any reason.

PLEASE READ ENTIRE PROCEDURE FIRST BEFORE ORDERING PARTS OR SERVICING THE AMPLIFIER. SOME PART REPLACEMENTS ARE AS NEEDED BASIS ONLY; SEE SHADED AREAS IN CHART BELOW.

IR = Brand International Rectifier A/R = As required

Infinity Part Number	Ref. Designator	Description	Qty	Comment
QM0061	Q1	MOSFET, IRF540 TO220AB IR ONLY	1	As Needed
QM0055	Q4,Q5	MOSFET, IRF740 TO220AB IR ONLY	2	As Needed
TS0016		TUBING, #5 BLACK CUT TO .3	A/R	
DR0091	D1	RECT, 15A 200V MUR1540 MOTOROLA ONLY	1	As Needed
810066		HEATSINK, FET CLIP, CLIP ON - NO SCREW	2	Used with heatsink 810156 on U2,U3
810156		HEATSINK, LINEAR VOLTAGE REG	1	
810157		HEATSINK, FET SEC BLACK	1	Replaces 810091
810158		HEATSINK, FET PRIMARY BLACK	1	Replaces 810092
810056		HEATSINK, FET CLIP .9 x .5 x .2	1	Use with Q1
MS0017		MISC, CERAMIC PLATE TO-220, CERAMIC INSULATOR 0.025	5	Use with Q1,3,4,7,8
		Thermal grease	A/R	Use with Q1,3,4,5,7,8, D1,D3
RM0002	R43	RES, MF 10K0 1/4W 1%	1	Replace
KS0027		50 DEGREE PTC THERMISTOR	1	Add
		RTV DOW CORNING 747 OR EQUIVALENT	A/R	
CE0145	C6	CAP, E 1000uF 100V 18 x 40 105C	1	To replace 85 deg. part
TS0009		HEATSHRINK TUBING 1/16" DIA.	A/R	For KS0027 leads
CC0040	C11	CAP 0.0047µF 100v 10%	1	As Needed
RX0109	R1, R2	0.1 Ω RES MO, 2W 5% METAL FILM	2	As Needed
QB0014	Q6	MPSA92 PNP TO92 TRANS	1	As Needed
293-100K	R22	100KΩ 1/2W RES CF 5%	1	As Needed
KS0020	R26	SURGISTOR 10R 2A CL-110 (13S100L)	1	As Needed
RC0136	R30	RES, CF 160K 1/4W 5%	1	As Needed
RC0273		RES, ZERO OHM 1/4W	1	
MS0005		SILPAD, .009" .3C/W TO3P	1	

The repair procedure is to be executed in 3 phases.

1) POWER SUPPLY BOARD UPGRADE - THESE STEPS CORRESPOND WITH FIGURE 1

Step	OPERATION
1.	Q1 - This part must be IR only. Replace with QM0061, MOSFET, IRF540 TO220AB IR if needed. Use TUBING, #5 BLACK cut to .3 (TS0016) to set mounting height to 0.3".

2.	Q4,Q5. These parts must be IR ONLY. Replace with MOSFET, IRF740 TO220AB IR (QM0055). Q4 and Q5 must have black tubing on component leads: TUBING, #5 BLACK cut to .3 Inch in length (TS0016) or equivalent.
3.	D1 should be MUR1540 MOTOROLA ONLY, if not replace with DR0091, RECT, 15A 200V MUR1540 MOTOROLA
4.	Add a thin ceramic, CERAMIC PLATE TO-220, INSULATOR 0.025 THICK " (MS0017) behind Q1 with thermal grease on both sides of the ceramic. Ensure that grease covers the complete surface of ceramic on both sides.
5.	Remove SILPAD (MS0005 SILPAD, .009" .3C/W TO3P) behind D3 and thoroughly clean the adhesive film with an Alcohol blended cleaner such as IPA etc.
6.	Parts Q4, Q5, D1, D3 must also have thermal grease between the devices and the heatsink.
7.	Verify that C6 is a 105 deg.C part, if not replace with CAP, E 1000uF 100V 105C (CE0145)
8.	Ensure that C11 is 0.0047uF (4700PF 100V 10%). This part must be axial and not a radial part. If not order Infinity Part# CC0040
9.	Ensure that R1, R2 are 0.1 ohm resistors (Color Code - Brown, Black, Silver and Gold) RES, MO 0.1 ohm 2W 5% Metal film, not wire wound. If not order Infinity Part# RX0109
10.	Ensure that Q6 is MPS A92 PNP TO92 MPSA92TR. If not order Infinity Part # QB0014
11.	Ensure that R22 is 100K, 1/2 watt part. (Color Code - Brown, Black, Yellow and Gold), RES, CF 100K 1/2W 5%. If not order Infinity Part# 293-100k
12.	Ensure that R26 is SURGISTOR 10R 2A CL-110 (13S100L) If not order Infinity Part# KS0020
13.	Ensure that R30 is 160K part (Color Code - Brown, Blue, Yellow, Gold), RES, CF 160K 1/4W 5%. If not order Infinity Part# RC0136
14.	Assemble the (new part) PRIMARY BLACK HEATSINK 810158 on the (2) FET(Q4 & Q5) side. ENSURE THAT THE FETS ARE FLUSH AGAINST THE HEATSINK.
15.	Assemble the 810157, HTSNK, FET SEC BLACK heat sink on side of three devices (Q1, D1, & D3) Install FET CLIP 810056 on Q1 (not shown in illustration)

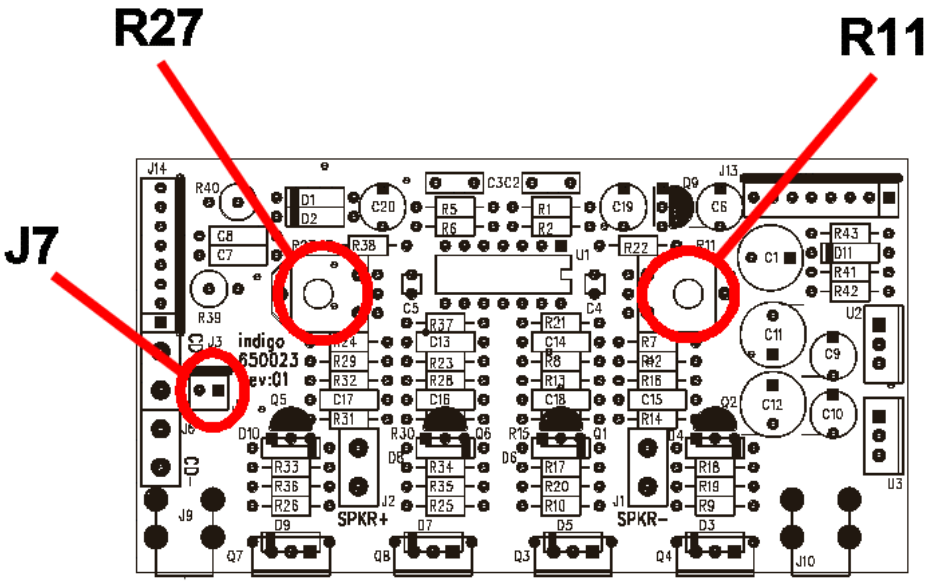
2) LINEAR BOARD UPGRADE

Step	OPERATION
	Remove Linear Board from Amplifier Assembly
A	Remove SILPADS under indicated location “A” in Figure 3 and thoroughly clean surface with IPA or equivalent.
	THESE STEPS CORRESPOND WITH FIGURE 2
1.	Replace R43 with Infinity Part# RM0002, RES, MF 10K0 1/4W 1%
2.	Locate, unsolder and lift a lead from C1 (CAP, E 2.2UF 50V BP 6X11 5MMLS) that is closest to the trim pot, see image.
3.	Mount new Thermistor (KS0027) at linear board mounting point as shown by removing the screw retaining the PCB bracket, inserting the Thermistor and rethreading the screw to hold down both the PCB and Thermistor, the tab “sandwiched” between the bracket and faceplate. Thermistor body should be flush with the faceplate.
4.	Important ! Cover both exposed thermistor leads with Shrink tubing (TS0009)
5.	Solder RC0273 (RES, ZERO OHM 1/4W) to one lead of new Thermistor, as depicted.
6.	Solder other lead of RC0273 to PCB location previously occupied by C1, as depicted.
7.	Solder lifted lead of C1 to Thermistor as depicted.
	THESE STEPS CORRESPOND WITH FIGURE 3
8.	Insert (new part) MS0005, SILPAD, .009" .3C/W TO3P between new Heatsink (810156) and both Regulators U2 and U3
9.	Add (new part) HEATSINK, LINEAR VOLTAGE REG (810156)
B.	Apply thermal grease to both surfaces of all (4) of the CERAMIC PLATE TO-220, CERAMIC INSULATOR 0.025” (MS0017), and sandwich between each power device and the faceplate. Replace the screws and clips; tighten.
10.	Secure Voltage regulators U2 and U3 to 810156, HEATSINK, LINEAR VOLTAGE REG using 810066, HEATSINK-FET CLIPS. These clip on and do not use screws
11.	Secure THERMISTOR leads & C1 using RTV DOW CORNING 747 or equivalent as depicted

3) IL100s ADJUST BIAS PROCEDURE

(Mandatory when any output MOSFET transistors Q3,4,7,8 are replaced)

1. Locate the Linear board assembly (PCB with the output transistors)
2. Adjust R11 and R27 fully Counter Clockwise. See diagram below.
3. Apply 120 VAC power to unit, Turn power switch ON.
4. Verify LED illuminates on the front gain control dial unless you have disconnected the plug.
5. Remove shorting plug on terminal J7 on Linear board, and insert current meter, set to the low mA range.
6. Verify initial current is less then 1 mA.
7. Adjust R11 Clockwise until current meter reads **5 mA** plus the initial current from step #6.
8. Adjust R27 Clockwise until current meter now reads **10 mA** plus the initial current from step #6.
9. Turn amplifier OFF. Disconnect AC power to unit.
10. Remove current meter; insert shorting plug back in terminal J7.
11. Replace cover (if present), wires if disconnected, and replace amplifier back into cabinet.



Location for Bias pots

FIGURE 1 POWER SUPPLY BOARD UPGRADE

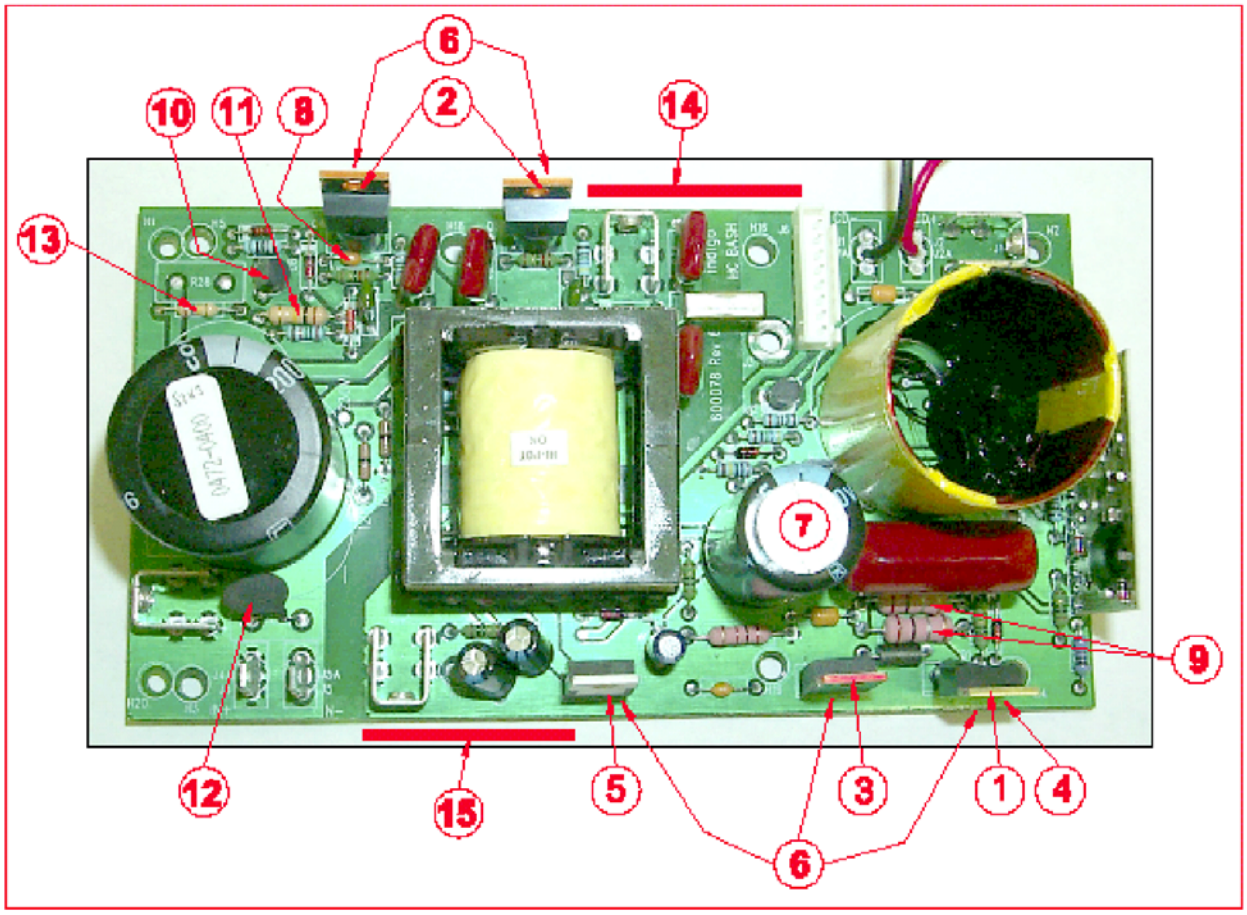


FIGURE 2 LINEAR BOARD UPGRADE
(Most components absent for clarity)

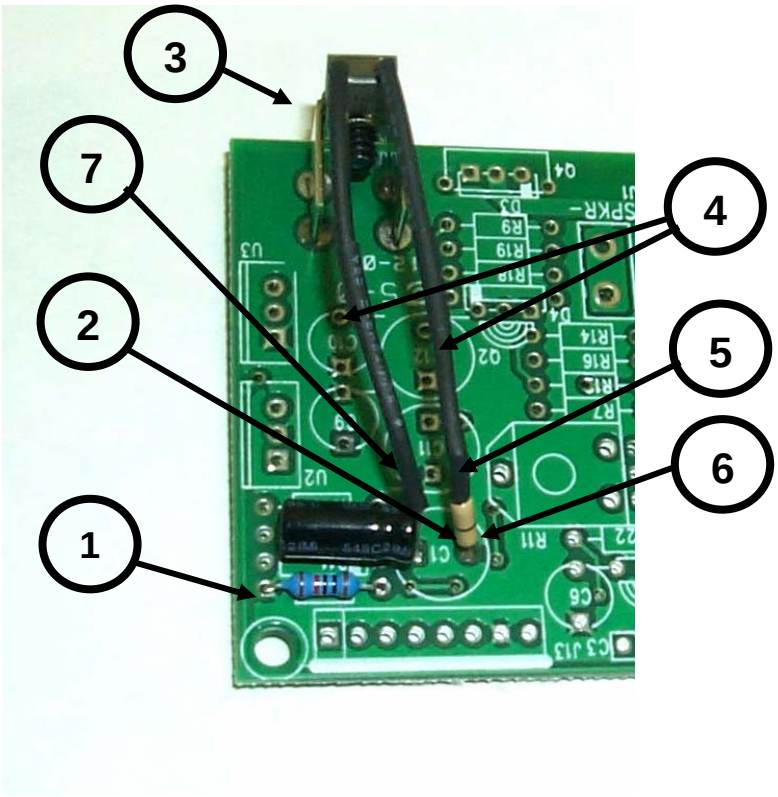
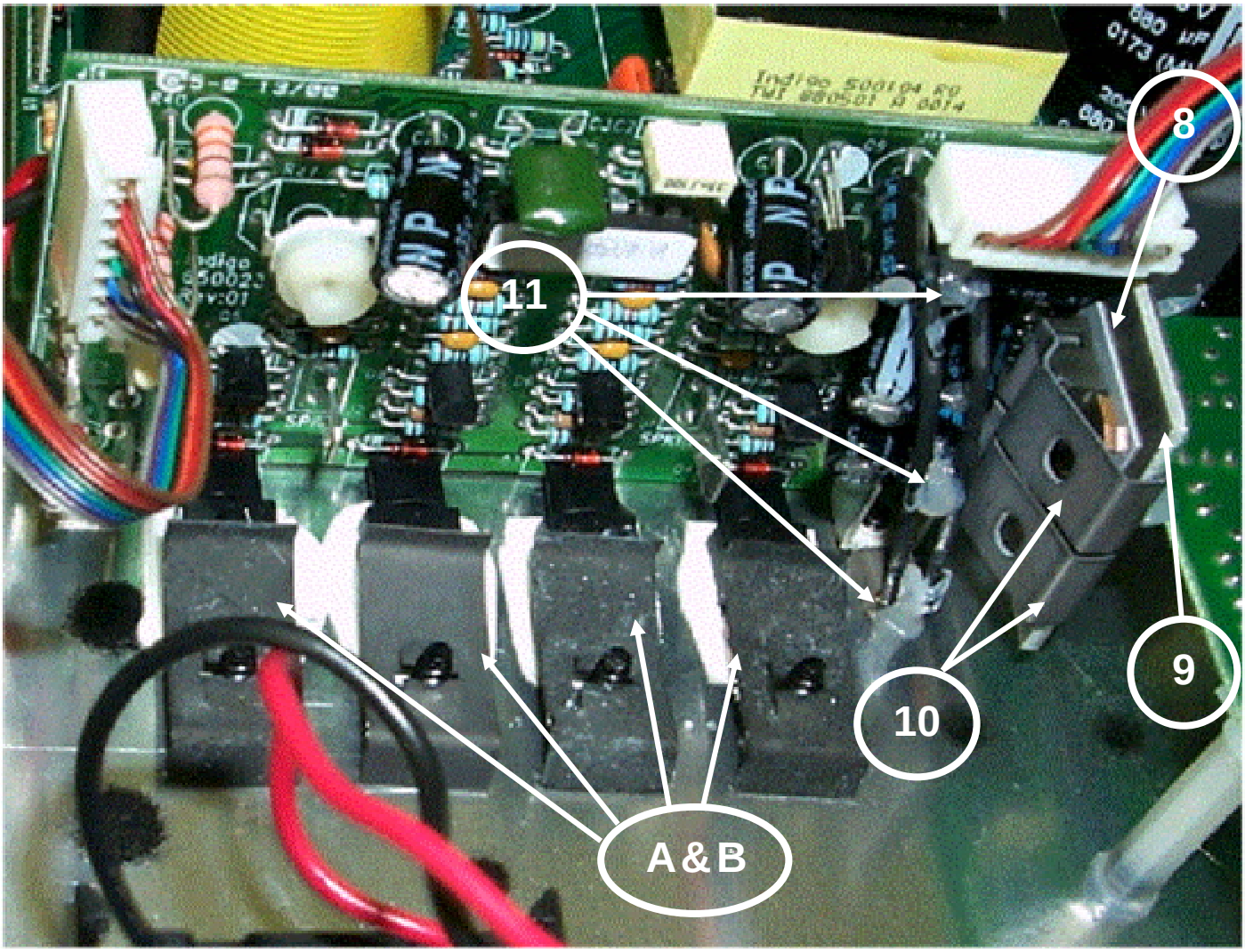


FIGURE 3 LINEAR BOARD UPGRADE (cont'd)



Model	Identification 120V	STATUS	ACTION
IL100s	No Label	Needs Reliability Upgrade	Follow Steps Outlined Above
IL100s	Small White Rectangular label On Amp faceplate "Rev II 2002-XXX"	Modified by factory	NONE REQUIRED

Service Bulletin

Service Bulletin INF2001-04 Rev2 – May 2005 | Warranty labor rate: MINOR repair

To: All Infinity Service Centers

Model: Interlude and Intermezzo IL50, IL60, IL100s, IL120s, IM1.2s, IM4.1t

Subject: No Output

In the event you receive an Interlude or Intermezzo loudspeaker with the complaint: "There is no output, and the LED on the volume control does not light, red or green", check the item listed below:

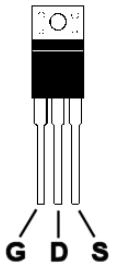
1) Check the line fuse to make sure it's not damaged. Replace if necessary

IL50, IL100s	3A	Infinity part# FS0022
IL60, IL120s	4A	Infinity part# FS0026
IM1.2s, IM4.1t	6A	Infinity part# FS0027

If the fuse is intact, or the unit still does not function, check the power supply portion of the amplifier circuit, described below:

2) Refer to the Exploded view page for detailed instructions on amplifer removal from the enclosure.
3) Remove all connectors and screws necessary to detach the Power Supply PCB from the main chassis heatsink. Squeeze the heads of the plastic standoffs with long-nosed pliers to detach the PCB from the heatsink.
4) Refer to the illustration on page 2. Check the DC resistance of following parts, in circuit, with a DMM:

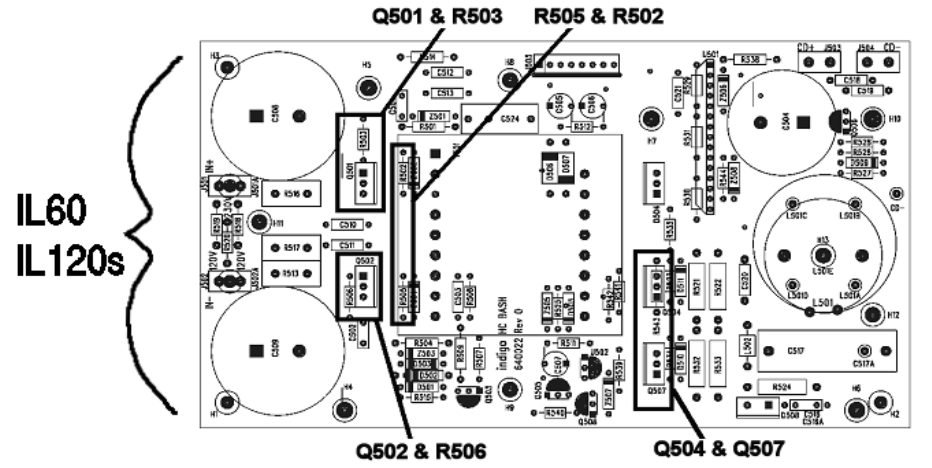
IL120s IL60	IRF740 MOSFETS **Q501, Q502** Infinity part# QM0055	D to S or S to D G to S or S to G D to G or G to D	Should measure >28K ohms* Should measure >400 ohms Should measure >28K ohms*
	22 Ohm 0.6W Resistors **R506, R503** Infinity part# RM0340	Should measure 22 ohms ±1%	
	422 Ohm 1/4 watt Resistors **R505, R502** Infinity part# RM0397	Should measure 422 ohms ±1%	
IL50 IL100s	IRF740 MOSFETS **Q4, Q5** Infinity part# QM0055	D to S or S to D G to S or S to G D to G or G to D	Should measure >28K ohms* Should measure >400 ohms Should measure >28K ohms*
	22 Ohm 0.6W Resistors **R17, R20** Infinity part# RM0340	Should measure 22 ohms ±1%	
	475 Ohm 1/4 watt Resistors **R16, R19** Infinity part# RM0075	Should measure 475 ohms ±1%	
IM1.2s IM4.1t	IRF740 MOSFETS **Q403,404,406,407** Infinity part# QM0055	D to S or S to D G to S or S to G D to G or G to D	Should measure >28K ohms* Should measure >400 ohms Should measure >28K ohms*
	22 Ohm 0.6W Resistors **R407,410,414,417** Infinity part# RM0340	Should measure 22 ohms ±1%	
	365 Ohm 1/4 watt Resistor **R408,411,415,418** Infinity part# RM0072	Should measure 365 ohms ±1%	

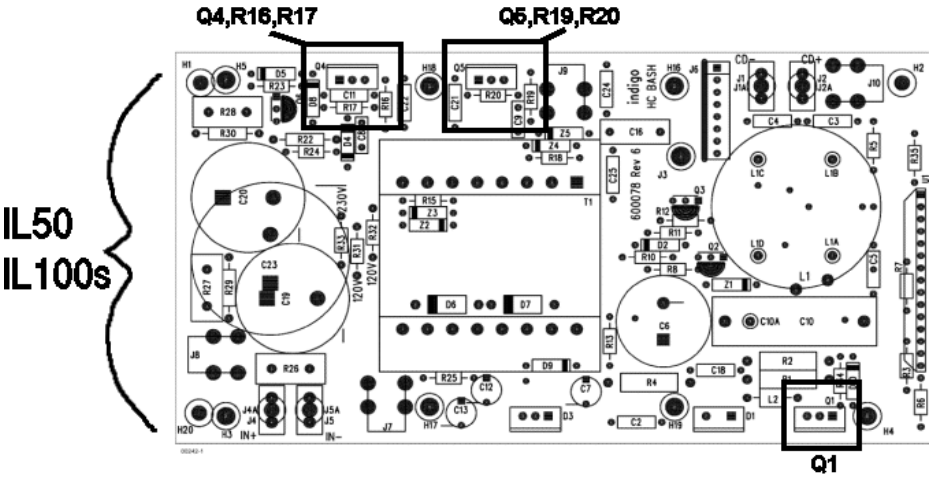


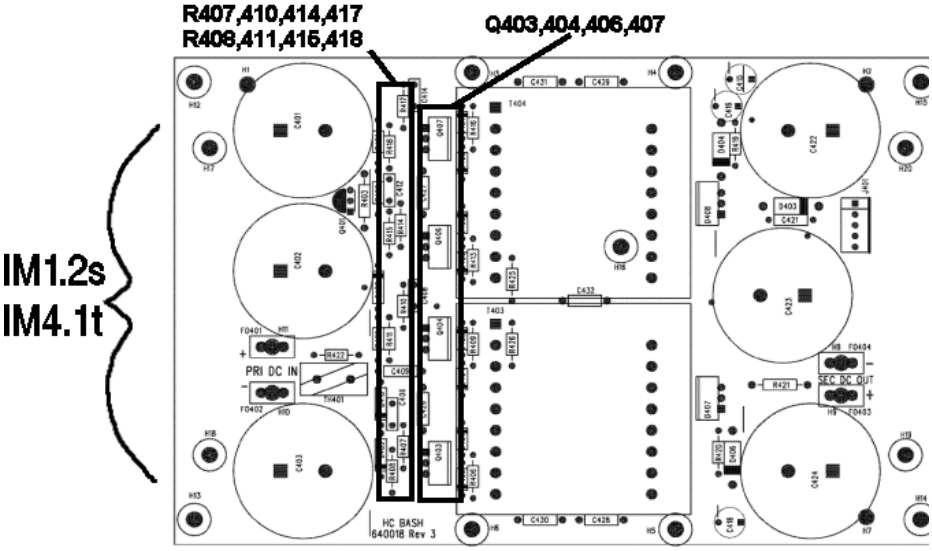
* The two transistor leads should be shorted together before these measurements are taken; the DMM leads will "charge" the circuit and the value may change, but should match the values above. Very low values that do not change indicate a shorted MOSFET.

5) Replace any defective parts above that show measured values lower than normal.
6) Reconnect J505 or J6 multicolor ribbon cable connector; remount the Power supply PCB; reconnect J501/502 or J4/J5 black/red Faston connectors.
7) All models except IM1.2S, IM4.1t: **temporarily DO NOT connect the pair of black/red "CD±" leads on the linear PCB).** Isolate the ends so they are not touching each other, or any conductive material. (For models IM1.2S, IM4.1t procedure is finished; replace amplifier).

8) Connect the subwoofer amplifier to an AC power source; turn the unit ON. Measure the DC voltage at the **"CD±"** wires; it should be 10-20 volts.
9) If it is 25 volts or greater, turn the amplifier OFF, disconnect from the power source, and replace:
   IL120S, IL60: **Q504,Q507** IRF640 on the Power Supply PCB, Infinity part# QM0015.
   IL50, IL100s: **Q1** IRF540 on the Power Supply PCB, Infinity part# QM0020.
10) If the voltage is normal, turn the amplifier OFF, disconnect from the power source, and reconnect the "CD±" leads.
11) Finish reassembling the amplifier, remount the heatsink, replace the amplifier in the cabinet and test the subwoofer.







TECH TIPS

Troubleshooting tips and solutions to common service problems

For models: IL50, IL100s, MSW-1, IL60, IL120s, IM2.6, IM3.5c **TIP# INFTT2003-03**

Intermezzo, Interlude and Modulus MSW-1 Power Supply Repair

Recommended for instances where the PCB has been damaged, for the above models only:

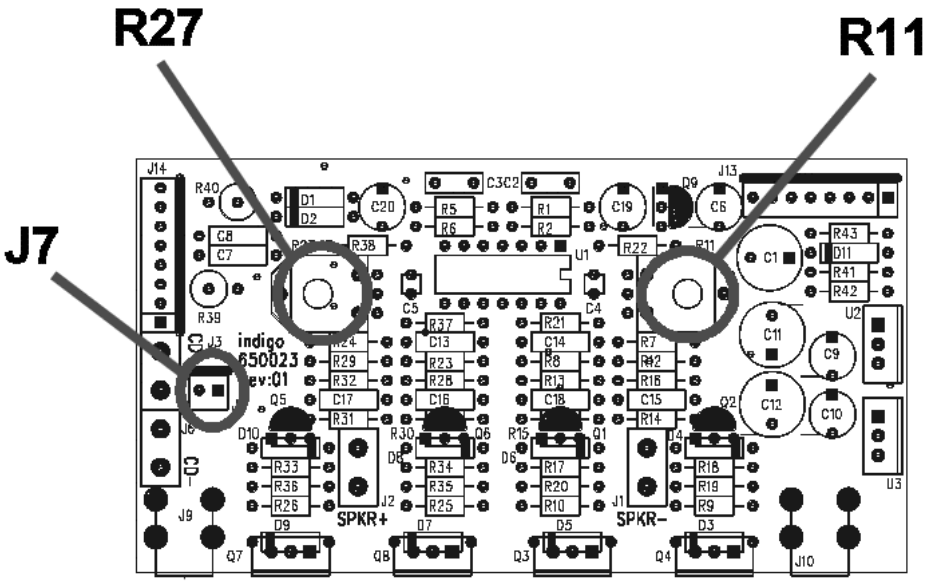
1) Change all MOSFETS, even for one device failure.
2) Clean and repair the PC board if required (See Tech Tip HCG2002-01 - Damaged Printed Circuit Boards).
3) Replace the Hybrid Bash Controller IC:
   U1 in models: IL50,IL100s,MSW-1,IM2.6,IM3.5c
   U501 in models: IL60, IL120s
   Infinity part # **HC1011**

FAILURE TO FOLLOW THE INSTRUCTIONS ABOVE MAY RESULT IN UNIT FAILURE WHEN THE AMPLIFIER IS POWERED UP

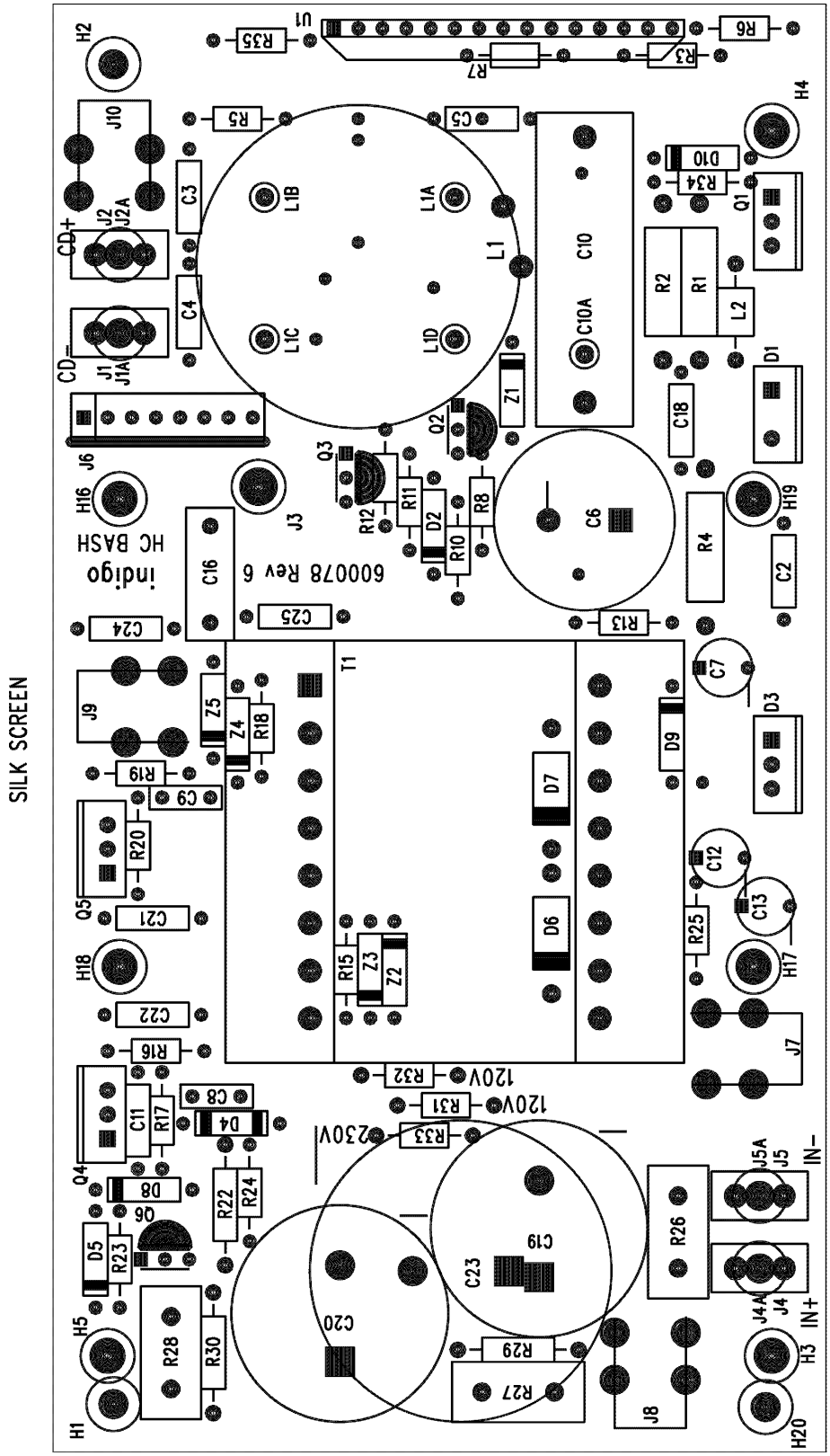
IL100s ADJUST BIAS PROCEDURE

(Mandatory when any output MOSFET transistors Q3,4,7,8 are replaced)

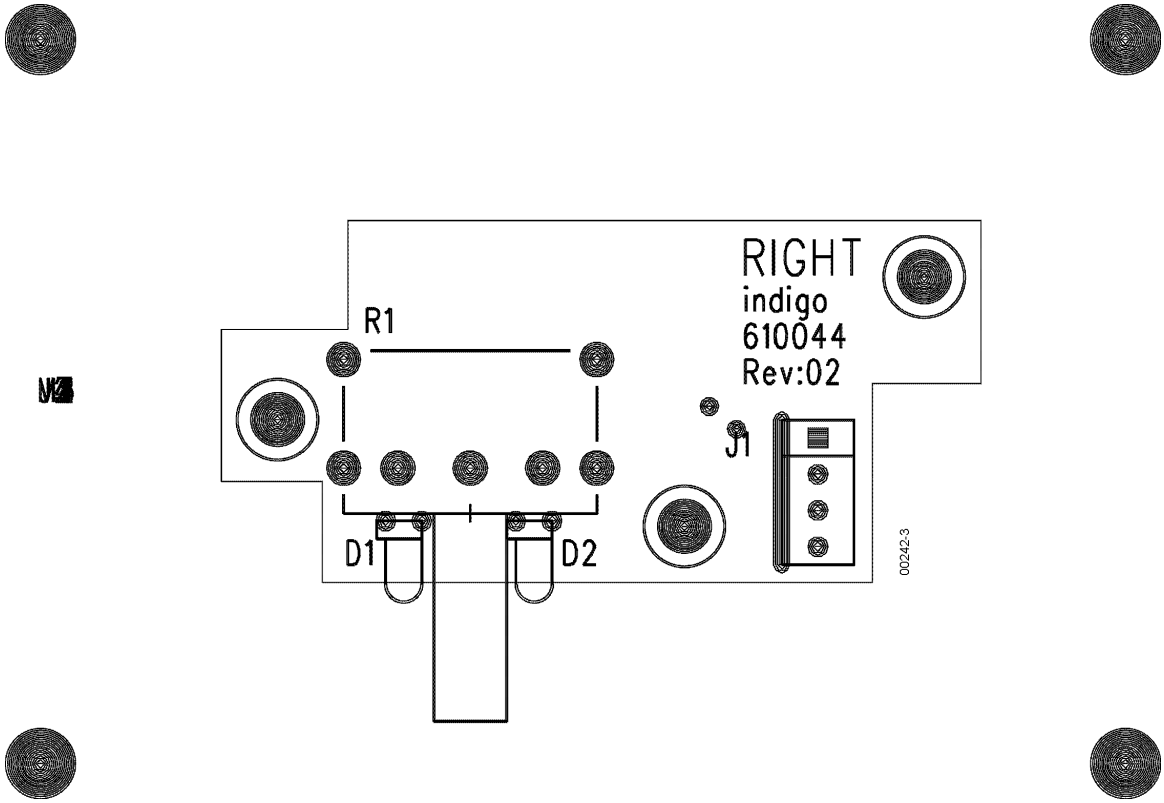
1. Amplifier should be unplugged and OFF.
2. Remove Amp assembly from cabinet; remove rear plastic cover if present. All wires exiting the cover can remain connected unless they will prevent you from removing the amplifier or accessing potentiometers on the Linear board PCB in the following steps.
3. Locate the Linear board assembly (PCB with the output transistors)
4. Adjust R11 and R27 fully Counter Clockwise. See diagram below.
5. Apply 120 VAC power to unit, Turn power switch ON.
6. Verify LED illuminates on the front gain control dial unless you have disconnected the plug.
7. Remove shorting plug on terminal J7 on Linear board, and insert current meter, set to the low mA range.
8. Verify initial current is less then 1 mA.
9. Adjust R11 Clockwise until current meter reads **5 mA** + the initial current from step #8.
10. Adjust R27 Clockwise until current meter now reads **10 mA** + the initial current from step #8.
11. Turn amplifier OFF. Disconnect AC power to unit.
12. Remove current meter; insert shorting plug back in terminal J7.
13. Replace cover (if present), wires if disconnected, and replace amplifier back into cabinet.



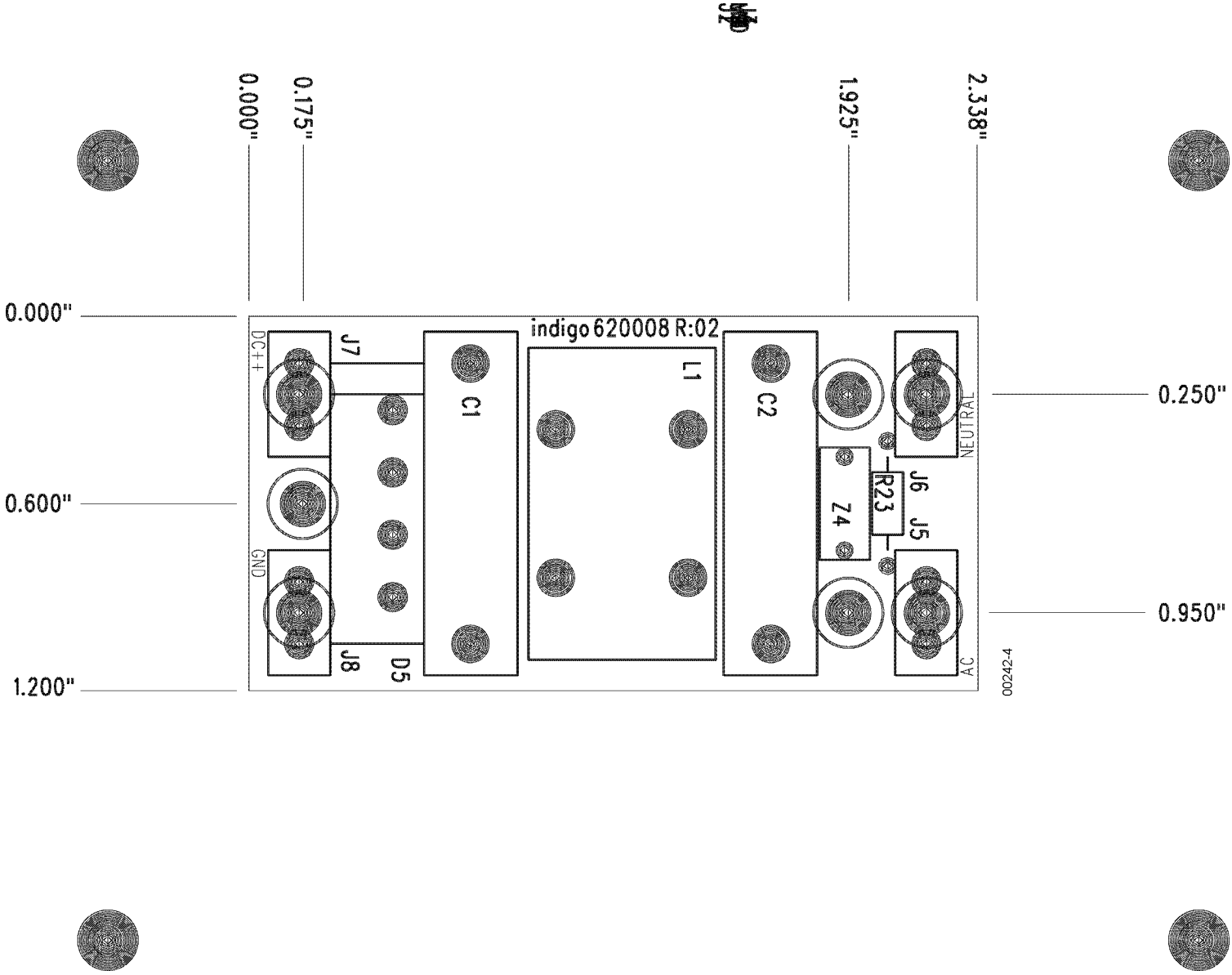
Power Supply PCB



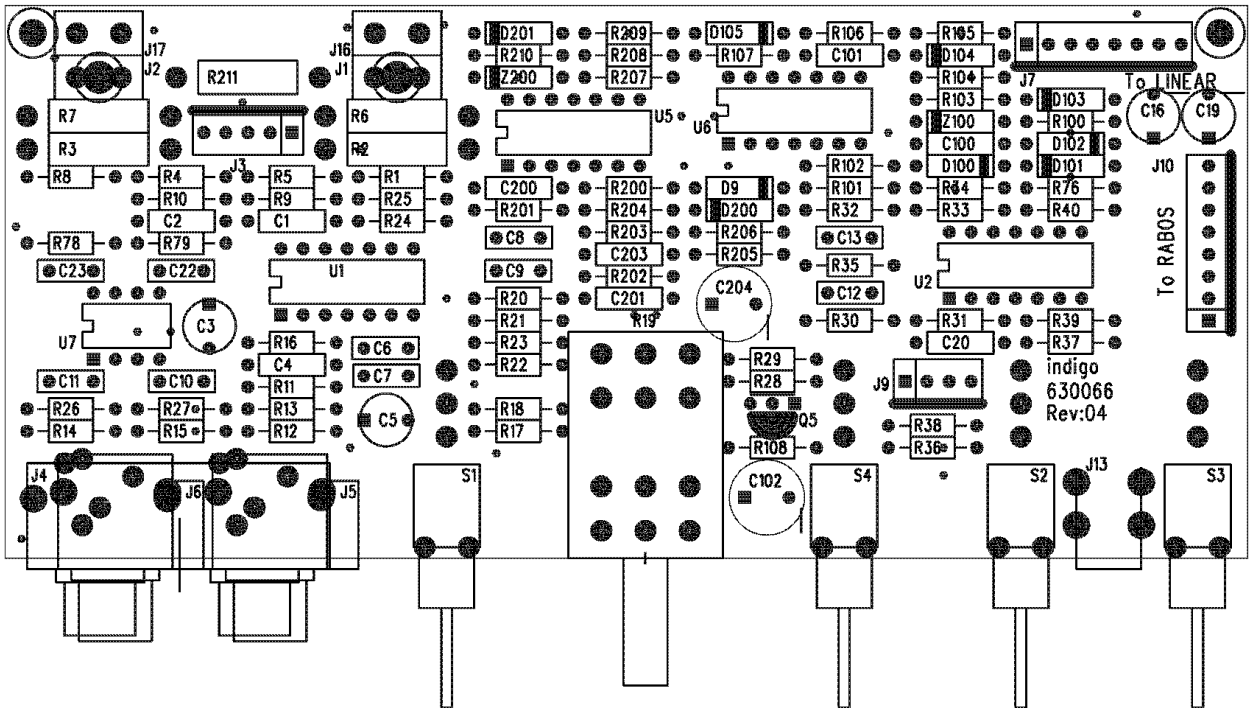
Volume Control PCB



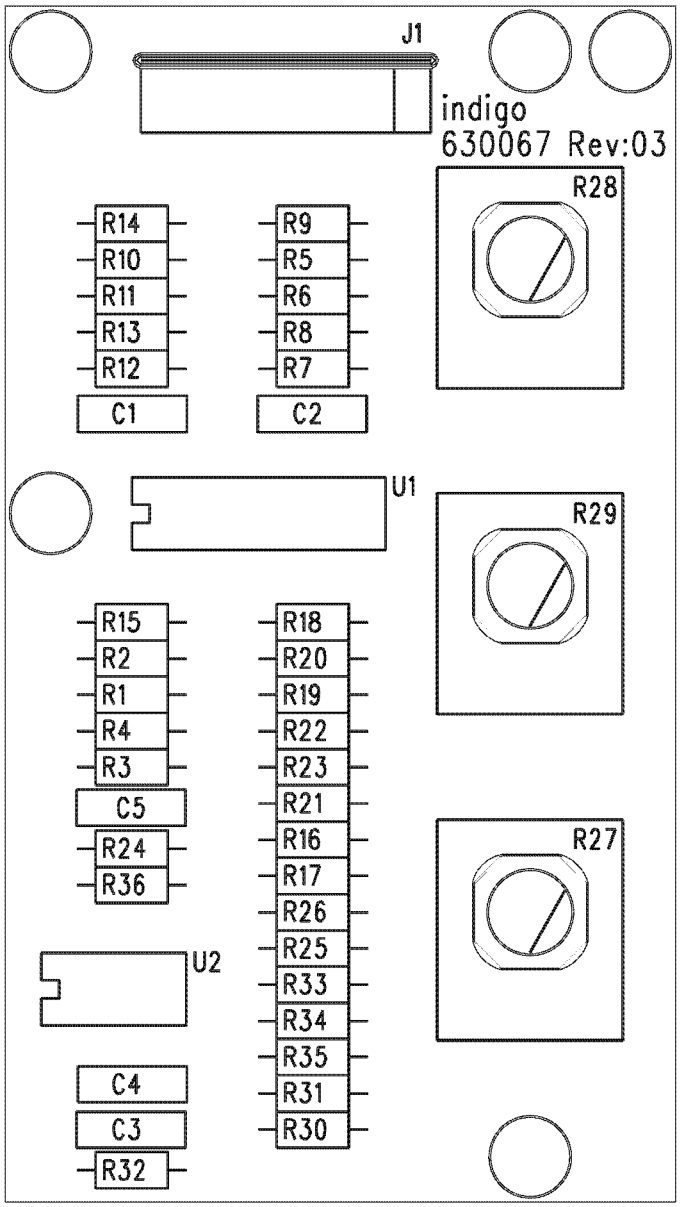
EMI FILTER PCB



Feature PCB


J17
J2
J16
J1
R211
R7
R3
R8
R6
R2
J3
R4
R10
C2
R78
C23
R79
C22
R5
R9
C1
R1
R25
R24
U1
U7
C3
R16
C4
R11
R13
R12
C6
C7
C5
C11
C10
R26
R14
R27
R15
J4
J6
J5
D201
R210
Z200
R209
R208
R207
U5
C200
R201
C8
C9
R200
R204
R203
C203
R202
C201
R19
R20
R21
R23
R22
R18
R17
S1
D105
R107
U6
D9
D200
R206
R205
C204
R29
R28
Q5
R108
C102
R106
C101
R102
R101
R32
C13
R35
C12
R30
R105
D104
R104
R103
Z100
C100
D100
R64
R33
U2
R31
C20
J9
R38
R36
S4
J7
To LINEAR
D103
R100
D102
D101
R76
R40
C16
C19
J10
To RABOS
R39
R37
indigo
630066
Rev:04
J13
S2
S3

RABOS PCB


J1
indigo
630067 Rev:03
R28
R14
R10
R11
R13
R12
C1
R9
R5
R6
R8
R7
C2
U1
R29
R15
R2
R1
R4
R3
C5
R24
R36
R18
R20
R19
R22
R23
R21
R16
R17
R26
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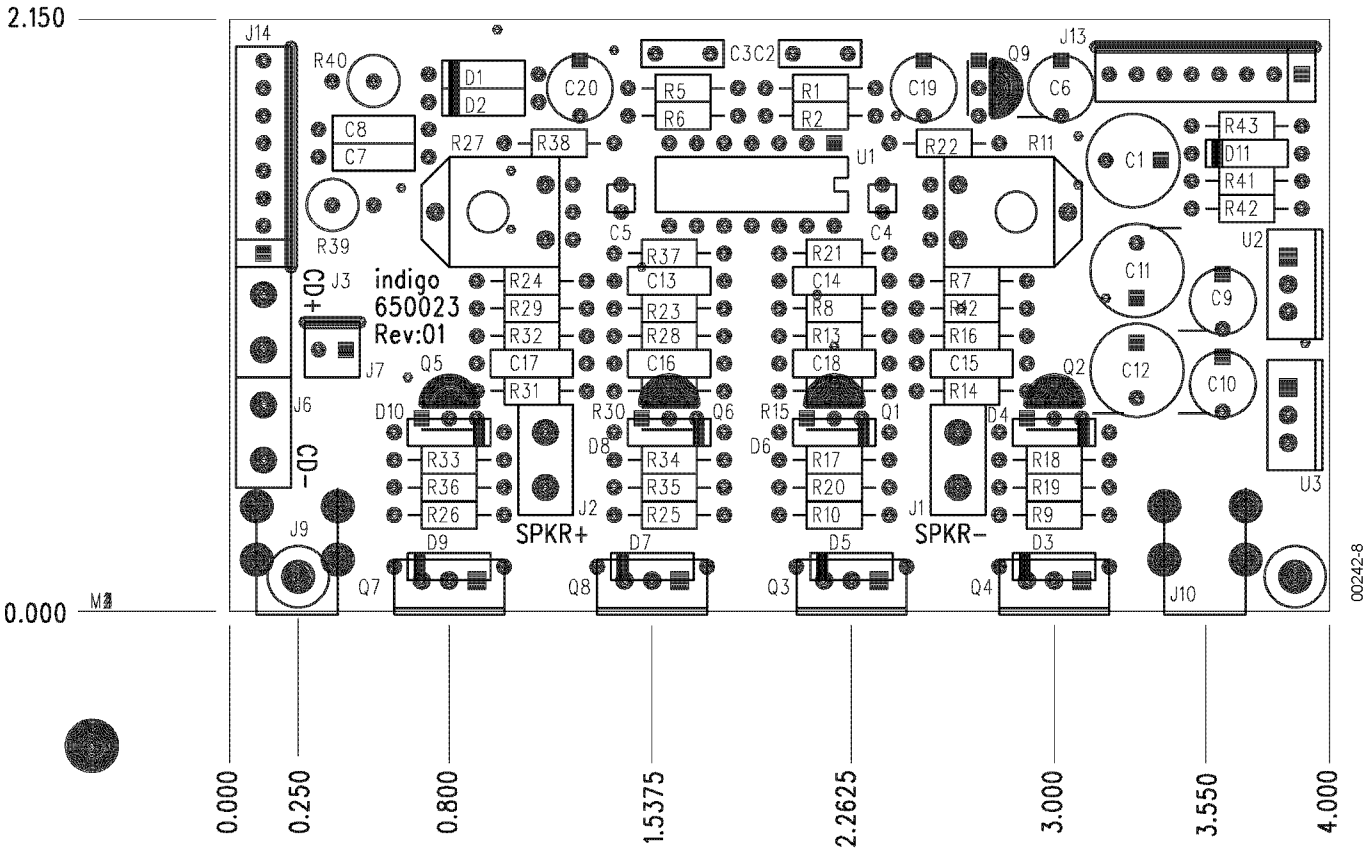
R35
R31
R30
U2
R27
J3
C4
C3
R32
00242-6

Linear PCB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D1
D2
C20
C3C2
R5
R6
R1
R2
C19
Q9
C6
J13
C8
C7
R27
R38
U1
R22
R11
C1
R43
D11
R41
R42
R39
C5
C4
U2
J3
CD+
indigo
650023
Rev:01
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C13
C14
C11
C9
R24
R29
R32
R23
R28
R8
R13
R7
R12
R16
J7
Q5
C17
C16
C18
C15
Q2
C12
C10
R31
R14
J6
CD-
D10
R30
Q6
R15
Q1
D4
U3
D8
D6
R33
R36
R26
R34
R35
R25
R17
R20
R10
R18
R19
R9
J2
J1
J9
SPKR+
SPKR-
D9
D7
D5
D3
Q7
Q8
Q3
Q4
J10
00242-8
M2
0.000
0.250
0.800
1.5375
2.2625
3.000
3.550
4.000
J12 J11

IL100s Electronic Parts List

Part#	Reference Designator	Qty	Description
	PCB, FEATURE INTERLUDE 100s		
	Semiconductors		
UA0003	U5,U6	2	OPAMP, QUAD 14PIN DIL LM324N
UA0009	U1,U2	2	OPAMP, QUAD 14P DIL TL074/084
UA0010	U7	1	OPAMP, DUAL 8PIN DIL TL082
DS0001	D9,D100-105,D200, D201	9	RECT, 100mA 75V SIGNAL 1N4148T
DZ0002	Z200	1	ZENER, 500mW 12V 5% 1N5242B
DZ0014	Z100	1	ZENER, 500MW 14V 5% 1N5244B
QM0035	Q5	1	JFET, N-CH J111 TO92 TR
	Capacitors		
CC0020	C200	1	CAP, CA 470PF 100V 5%
CC0025	C203	1	CAP, CA 1000PF 100V 10%
CC0072	C1,C2,C4,C20,C100,C101	6	CAP, CA 100PF 100V 10%
CC0082	C201	1	CAP, CA .1UF 50V 20%
CE0013	C204	1	CAP, E 47UF 50V 20% 5MMLS
CE0101	C16,C19	2	CAP, E 4.7UF 50V 85D 5X11 5MML
CE0103	C102	1	CAP, E 100UF 35V 85DEG 5MMLS
CE0108	C3,C5	2	CAP, E 4.7UF 16V BIPOLAR 5X11
CF0045	C10,C11,C22,C23	4	CAP, F .1UF 63DC 5% 5MMLS
CF0078	C12,C13	2	CAP, F .47UF 63V 10% 5MMLS
CF0125	C6,C8	2	CAP, F .068UF 100V 5% 5MMLS
CF0128	C7,C9	2	CAP, F .033UF 100V 5% 5MMLS
	Resistors		
RC0001	R211	1	RES, CF 1K0 1/2W 5%
RC0273	R20,R24,R33	3	RES, ZERO OHM 1/4W
RC0290	R206	1	RES, CF 9M1 1/4W 5%
RM0002	R12,R13,R37-R39,R100-R102,R208,R209	10	RES, MF 10K0 1/4W 1%
RM0003	R200,R210	2	RES, MF 15K0 1/4W 1%
RM0011	R1,R4,R5,R8,R103,R105,R201	7	RES, MF 100K 1/4W 1%
RM0012	R14,R15	2	RES, MF 100R 1/4W 1%
RM0016	R104	1	RES, MF 13K0 1/4W 1%
RM0024	R207	1	RES, MF 2K21 1/4W 1%
RM0031	R204	1	RES, MF 3K32 1/4W 1%
RM0065	R30	1	RES, MF 200R 1/4W 1%
RM0075	R205	1	RES, MF 475R 1/4W 1%
RM0079	R76	1	RES, MF 750R 1/4W 1%
RM0085	R107	1	RES, MF 2K00 1/4W 1%
RM0106	R26,R78	2	RES, MF 14K0 1/4W 1%
RM0120	R9,R10	2	RES, MF 30K1 1/4W 1%
RM0136	R202	1	RES, MF 150K 1/4W 1%
RM0144	R16	1	RES, MF 47K5 1/4W 1%
RM0156	R108	1	RES, MF 392K 1/4W 1%
RM0158	R27,R79	2	RES, MF 28K0 1/4W 1%
RM0163	R28,R29	2	RES, MF 2K80 1/4W 1%
RM0171	R31,R203	2	RES, MF 475K 1/4W 1%
RM0188	R106	1	RES, MF 499R 1/4W 1%
RM0205	R17,R18,R22,R23	4	RES, MF 22K6 1/4W 1%
RM0249	R32	1	RES, MF 28K7 1/4W 1%
RM0277	R11	1	RES, MF 86K6 1/4W 1
RM0308	R35	1	RES, MF 3K16 1/4W 1%
RX0001	R2,R3,R6,R7	4	RES, MO 1K 1W 5%
RP0105	R19	1	POT, B50K QUAD

00245-1

Electronic Parts List (Cont.)

Part#	Reference Designator	Qty	Description
	Miscellaneous		
JC0052	J4	1	CNCTR, RCA QUAD JACK
JH0006	J9	1	CNCTR, HEADER 4PIN .100CTR
JH0008	J3	1	CNCTR, HEADER 5PIN .100CTR
JH0074	J7,J10	2	CNCTR, HEADER 8PIN LOCKING .1C
SR0007	S1,S2,S3,S4	4	SWITCH, SPDT TOGGLE C/W CAP PC
	PCB, LINEAR BD		
	Semiconductors		
UA0009	U1	1	OPAMP, QUAD 14P DIL TL074/084
DS0001	D1,D2,D3,D4,D5,D6,D7,D8,D9,D10,D11	11	RECT, 100mA 75V SIGNAL 1N4148T
QB0017	Q2,Q6	2	TRANS, NPN 150V 0.6A 2N5551TR
QB0018	Q1,Q5	2	TRANS, PNP 150V 0.6A 2N5401TR
QM0034	Q4,Q8	2	MOSFET, IRF9540 TO220AB
QM0036	Q3,Q7	2	MOSFET, IRF530 TO220
QM0054	Q9	1	JFET, N-CH J113 TO92
UV0010	U2	1	VREG, +15V 500MA LM7815CT
UV0011	U3	1	VREG, -15V 500MA LM7915CT
	Capacitors		
CC0025	C15,C16,C17,C18	4	CAP, CA 1000PF 100V 10%
CC0080	C13,C14	2	CAP, CA 220P 100V 10%
CC0082	C7,C8	2	CAP, CA .1UF 50V 20%
CC0097	C4,C5	2	CAP, C 10P 50V 10
CE0003	C6	1	CAP, E 2.2UF 50V 20% 105C
CE0013	C9,C10	2	CAP, E 47UF 50V 20% 5MMLS
CE0018	C11,C12	2	CAP, E 100UF 25V 20% 5MMLS
CE0106	C19,C20	2	CAP, E 22UF 35V BP 8X11 5MMLS
CE0116	C1	1	CAP, E 2.2UF 50V BP 6X11 5MMLS
CF0125	C3	1	CAP, F .068UF 100V 5% 5MMLS
CF0128	C2	1	CAP, F .033UF 100V 5% 5MMLS
	Resistors		
RC0273	R19,R20,R35,R36	4	RES, ZERO OHM 1/4W
RM0001	R12,R13,R14,R15,R28,R29,R30,R31	8	RES, MF 1K00 1/4W 1%
RM0002	R1,R2,R5,R6,R22,R38,R41,R42	8	RES, MF 10K0 1/4W 1%
RM0021	R7,R8,R23,R24	4	RES, MF 1K82 1/4W 1%
RM0024	R17,R18,R33,R34	4	RES, MF 2K21 1/4W 1%
RM0027	R21,R37	2	RES, MF 33K2 1/4W 1%
RM0029	R9,R10,R25,R26	4	RES, MF 3K01 1/4W 1%
RM0144	R43	1	RES, MF 47K5 1/4W 1%
RM0180	R16,R32	2	RES, MF 4K99 1/4W 1%
RP0059	R11,R27	2	POT, 2K 8MM TOP ADJ/COVER
RX0048	R39,R40	2	RES, MO 330R 1W 5% (STANDING UP)
	Miscellaneous		
JH0016	J7	1	CNCTR, HEADER 2PIN .100CTR
JH0074	J13,J14	2	CNCTR, HEADER 8PIN LOCKING .1C
MM0025	J9,J10	2	MISC, PC MT SCREW TERM 6-32
MT0003	J1	1	TERM, FASTON MALE PCMT 250X032
MT0023	J3,J6	2	TERM, FASTON MALE PCMT 187X032
MT0036	J2	1	TERM, FASTON MALE PCMT 205X032

00245-2

Electronic Parts List (Cont.)

PCB, RABOS INTERLUDE 100s

Part#	Reference Designator	Qty	Description
	Semiconductors		
UA0009	U1	1	OPAMP, QUAD 14P DIL TL074/084
UA0010	U2	1	OPAMP, DUAL 8PIN DIL TL082
	Capacitors		
CF0045	C1,C2,C4,C5	4	CAP, F .1UF 63DC 5% 5MMLS
CF0135	C3	1	CAP, F .18UF 50V 5% 5MMLS
	Resistors		
RM0001	R24,R25	2	RES, MF 1K00 1/4W 1%
RM0002	R1,R2,R4,R9,R14,R15,R21,R23	8	RES, MF 10K0 1/4W 1%
RM0003	R8,R13	2	RES, MF 15K0 1/4W 1%
RM0012	R3	1	RES, MF 100R 1/4W 1%
RM0013	R34	1	RES, MF 11K0 1/4W 1%
RM0024	R22	1	RES, MF 2K21 1/4W 1%
RM0025	R30	1	RES, MF 2K74 1/4W 1%
RM0042	R26	1	RES, MF 681R 1/4W 1%
RM0080	R5,R10	2	RES, MF 825R 1/4W 1%
RM0179	R32	1	RES, MF 66K5 1/4W 1%
RM0260	R36	1	RES, MF 1M0 1/4W 1%
RM0271	R19	1	RES, MF 110K 1/4W 1%
RM0281	R7,R12	2	RES, MF 6K04 1/4W 1
RM0304	R35	1	RES, MF 7K87 1/4W 1%
RM0315	R17	1	RES, MF 2K67 1/4W 1%
RM0321	R31	1	RES, MF 1K27 1/4W 1%
RM0369	R6,R11	2	RES, MF 340R 1/4W 1%
RM0370	R18	1	RES, MF 9K31 1/4W 1%
RM0377	R16	1	RES, MF 3K57 1/4W 1%
RM0378	R20	1	RES, MF 549R 1/4W 1%
RM0385	R33	1	RES, MF 887R 1/4W 1%
RP0087	R27,R29	2	POT, A10K DUAL 12MM HOR SEL
RP0088	R28	1	POT, C10K DUAL 12MM HOR SEL
	Miscellaneous		
JH0074	J1	1	CNCTR, HEADER 8PIN LOCKING .1C
	PCB, Power Supply		
	Semiconductors		
DR0086	D6,D7	2	RECT, 1A 600V ULTRAFAST MUR160
DS0001	D2,D10	2	RECT, 100mA 75V SIGNAL 1N4148T
DS0002	D5,D8,D9	3	RECT, 100MA 200V SIGNAL 1N3070
DZ0004	Z1	1	ZENER, 500mW 18V 5% 1N5248B
DZ0021	Z2,Z3,Z4,Z5	4	ZENER, 500MW 15V 5% 1N5245B
QB0002	Q2	1	TRANS, NPN 40V .6A TO92 2N4401
QB0017	Q3	1	TRANS, NPN 150V 0.6A 2N5551TR
QB0018	Q6	1	TRANS, PNP 150V 0.6A 2N5401TR
DD0003	D4	1	RECT, 1A2 60V DIAC
DR0026	D3	1	RECT, 16A 200V CATHODE FEP16DT
DR0087	D1	1	RECT, 15A 200V ULTRA MUR1540
HC1011	U1	1	HYBRID, THK FILM HC BUCK CNTR
QM0004	Q4,Q5	2	MOSFET, IRF740 TO220AB
QM0020	Q1	1	MOSFET, IRF540 TO220AB

00245-3

Electronic Parts List (Cont.)

Part#	Reference Designator	Qty	Description
	Capacitors		
CC0025	C2	1	CAP, CA 1000PF 100V 10%
CC0059	C3,C4,C5,C18	4	CAP, CA .1UF 100V 20%
CE0013	C12,C13	2	CAP, E 47UF 50V 20% 5MMLS
CE0098	C7	1	CAP, E 22UF 50V 20% 5X11 5MMLS
CF0019	C8,C9	2	CAP, F 4700PF 100V 5% 5MMLS
CC0124	C11	1	CAP, C .01UF 500V DISC .2LS
CE0040	C23	1	CAP, E 680UF 200V 30X35 85DEG
CE0110	C6	1	CAP, E 1000UF 100V 18X40
CF0020	C16	1	CAP, FY2 4700PF 250V 20%
CF0050	C21,C22,C24,C25	4	CAP, F .1UF 250V 10% 10MMLS
CF0146	C10	1	CAP, F 6.8UF 250V 10% 27MMLS
	Resistors		
RC0128	R35	1	RES, CF 33K 1/4W 5%
RC0217	R22	1	RES, CF 47K 1/2W 5%
RC0273	R31,R32,R35	3	RES, ZERO OHM 1/4W
RM0001	R23	1	RES, MF 1K00 1/4W 1%
RM0002	R8	1	RES, MF 10K0 1/4W 1%
RM0035	R11	1	RES, MF 4K75 1/4W 1%
RM0039	R6	1	RES, MF 5K11 1/4W 1%
RM0070	R12	1	RES, MF 301R 1/4W 1%
RM0075	R15,R16,R18,R19	4	RES, MF 475R 1/4W 1%
RM0111	R7	1	RES, MF 17K8 1/4W 1%
RM0123	R5	1	RES, MF 36K5 1/4W 1%
RM0198	R24	1	RES, MF 205K 1/4W 1%
RM0260	R10	1	RES, MF 1M0 1/4W 1%
RM0339	R3,R13,R25,R34	4	RES, MF 10R 0.6W 1% FLAMEPROOF
RM0340	R17,R20	2	RES, MF 22R 0.6W 1% FLAMEPROOF
RX0072	R4	1	RES, MO 100R 1W 5%
RW0022	R1,R2	2	RES, WW 0R1 2W 5%
KS0020	R26	1	SURGISTOR, 10R 2A CL-110
	Miscellaneous		
480007	J1	1	SUB, #18B 4" 187X032/1/4" STRP
480029	J2	1	SUB, #18R 4" 187X032/1/4"STRP
500104	T1	1	XFMR, POWER 100V HC TRAN ETD39
540131	L1	1	IND, 25UH UPRIGHT AIR COIL
BF0007	L2	1	BEAD, FERRITE
JH0074	J6	1	CNCTR, HEADER 8PIN LOCKING .1C
MM0025	J7,J8,J9,J10	4	MISC, PC MT SCREW TERM 6-32
MT0005		2	TERM, KWIKDISC .187 X.032 FEMA USED ON 480029 AND 480007
MT0023	J4,J5	2	TERM, FASTON MALE PCMT 187X032
TS0016		2	TUBING, #5 BLK CUT TO .3 Used on Q4,Q5
480007	J5,J6,J8	3	SUB, #18B 4" 187X032/1/4" STRP
480029	J7	1	SUB, #18R 4" 187X032/1/4"STRP
540124	L1	1	IND, CM CHOKE YT7271
	PCB, EMI FILTER		
CF0057	C1,C2	2	CAP, FX .22UF 250V 10%
DB0009	D5	1	RECT, 6A 400V BRIDGE
KV0001	Z4	1	VARISTOR, 275V 100J .6W
MT0005		4	TERM, KWIKDISC .187 X.032 FEMA USED ON 480007 AND 480029
RC0004	R23	1	RES, CF 1M0 1/4W 5%

Change R22 to 100k ohm - See Page 15

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Electronic Parts List (Cont.)

PCB, VOLUME-LED

Part#	Reference Designator	Qty	Description
DL0014	D1,D2	2	LED, 3MM BICOLOR RED/GR
JH0006	J1	1	CNCTR, HEADER 4PIN .100CTR
RP0097	R1	1	POT, A10K SINGLE/BRKT D SHAFT
HS0078		3	SCREW, #4-24X1/2 HL PP BLK USED ON 610044
INTERLUDE CUP R		1	INTERLUDE VOL-LED MTG PLT RIGH
JC0169A		1	CNCTR, FEM-MA HARNESS 4PSH 15" USED ON LOCATION J1
MM0066		1	MISC, VOL GASKET R INTERLUDE
RP0103		1	POT, KNOB INTERLUDE LEVEL R

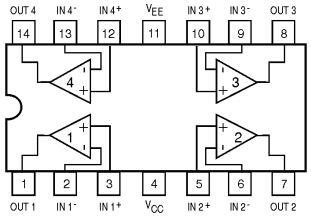
MISCELLANEOUS/EXTERNAL

	Description		Remarks
JC0070	CNCTR, 8PIN SPKR JACK RTANG	1	J1
JH0008	CNCTR, HEADER 5PIN .100CTR	1	J3
480121	SUB, #16B 30" 205X032/205X032	1	SPEAKER WIRE
480122	SUB, #16R 30" 250X032/250X032	1	SPEAKER WIRE
810056	MET, HTSNK CLIP .9X.5X.2 FET	7	3PER USED ON D1,D3,Q1 ON MAIN BOARD; 4PER USED ON Q3, Q4, Q7, Q8 ON LINEAR BOARD
810066	MET, HTSNK CLIP HPS SERIES	2	USED Q4,Q5 ON MAIN BOARD
810091	MET, HTSNK SEC 3FET RP5	1	USED ON 600078
810092	MET, HTSNK PRI 2FET RP5	1	USED ON 600078
930050	CUP, AMP BUCKET IL50S/IL100	1	AMP COVER
FH0012	FUSE, HOLDER PANEL MT SEALED	1	ON THE PANEL
FS0022	FUSE, 3A 250V 1.25X.25 GLASS	1	FUSE
HS0004	SCREW, #6-32X1/4 PAN PHIL ZNP	5	1PER USED ON MZ0003; 4PER USED ON MM0025
HS0062	SCREW, #6-1/2 TYPE B PP BLK	7	USED ON FETS
HS0065	SCREW, #6-32X1/4 PAN PHIL BLK	1	USED ON MZ0003
HS0067	SCREW, #6-3/8 TYPE A PP BLK	12	6PER USED ON MZ0030; 3PER USED ON MZ0040; 3PER USED ON MM0025
HS0078	SCREW, #4-24X1/2 HL PP BLK	5	2PER USED ON JC0070; 2PER USED ON JC0052; 1PER USED ON CUP
JC0071	CNCTR, FEM-FEM HARNESS 8PIN 9"	2	USED ON THE FEATURE LINEAR; USED ON THE LINEAR MAIN
JC0079	CNCTR, FEM-FEM HARNESS 5PIN 7"	1	USED WITH FEATURE AND HI LEVEL PCB
JC0111	8PIN RIBBON CABLE 3"	1	USED ON RABOS Board to Equalizer Board
JC0129	CNCTR, AC IEC SOCKET .250 2PIN	1	ON THE FRONT PANEL
JC0169C	CNCTR, FEM-FEM HARNESS 4PS 28"	1	USED ON J9
MM0069	MISC, RUBBER GROMMET IL50/100	3	FREQ,LEVEL,WIDTH ON FRONT PANEL
MS0005	SILPAD, .009" .3C/W TO3P	7	3PER USED ON MAI BOARD; 4PER USED ON THE LINEAR BOARD
MZ0003	STANDOFF, 6-32 3/8 ROUND AL	1	USED ON THE MAIN BOARD
MZ0030	STANDOFF, 3/8" NYLON	6	3PC USED ON 600078 BOARD; 3PC USED ON 620008 BOARD
MZ0040	STANDOFF, 30MM NYLON	3	USED ON THE RABOS BOARD
RP0027	POT, KNOB BLACK SKIRT WHT IND	1	USED ON FREQUENCY CONTROL
SR0032	SWITCH, ROCKER TV5	1	ON THE FRONT PANEL
WI0043	WIRE, POWER CORD 15FT IEC	1	

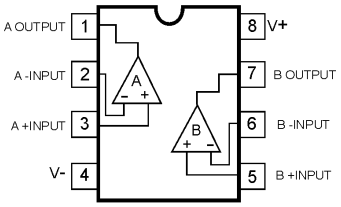
00245-5

Integrated Circuit Diagrams

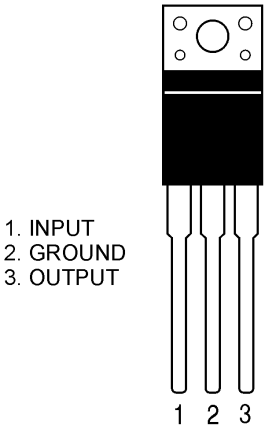
QUAD OP-AMP, LM324, TL084
U1, U2, U5, U6



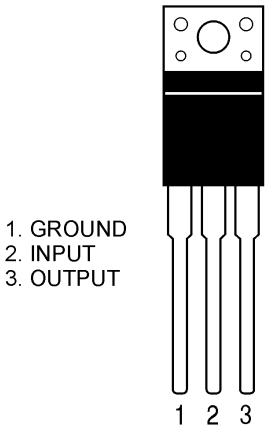
OPAMP, DUAL 8PIN DIL TL082
U2, U7



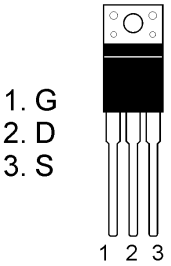
+15V TO220 LM7815CT
REGULATOR
U2



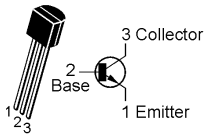
-15V TO220 LM7915CT
REGULATOR
U3



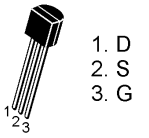
MOSFET, IRF530/ 540/740/9540
Q1, Q3, Q4, Q5, Q7, Q8



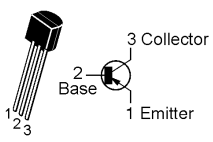
TRANS, NPN 150V 0.6A 2N5551,
Q2, Q3, Q6
2N4401,



JFET, Q5,Q9

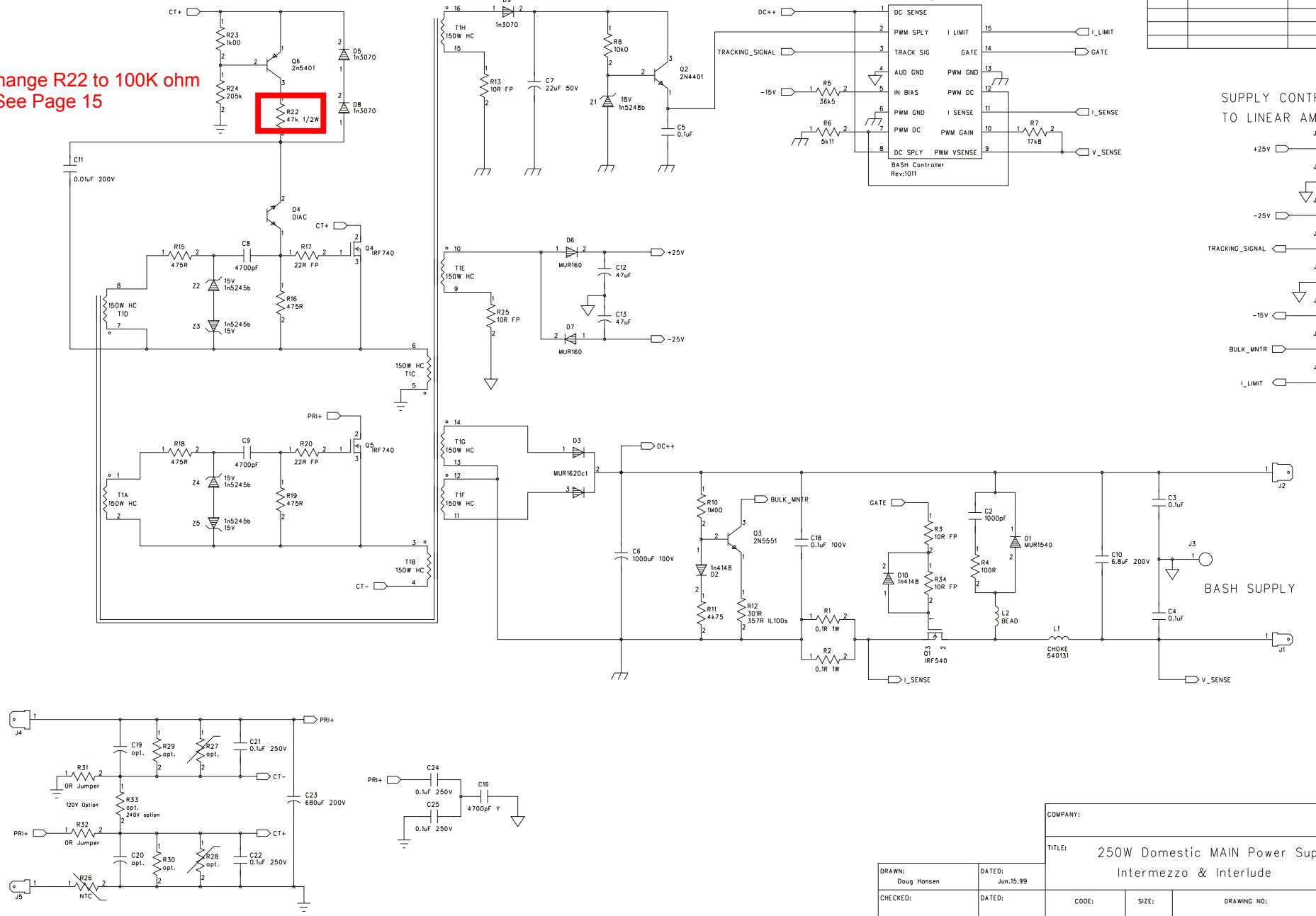


TRANS, PNP 150V 0.6A 2N5401,
Q1, Q5, Q6



00376

Change R22 to 100K ohm
- See Page 15



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CHECKED:	DATED:	TITLE: 250W Domestic MAIN Power Supply Intermezzo & Interlude	
QUALITY CONTROL:	DATED:	CODE:	SIZE: DRAWING NO: REV: 11
RELEASED:	DATED:	SCALE:	SHEET: 1 OF 1

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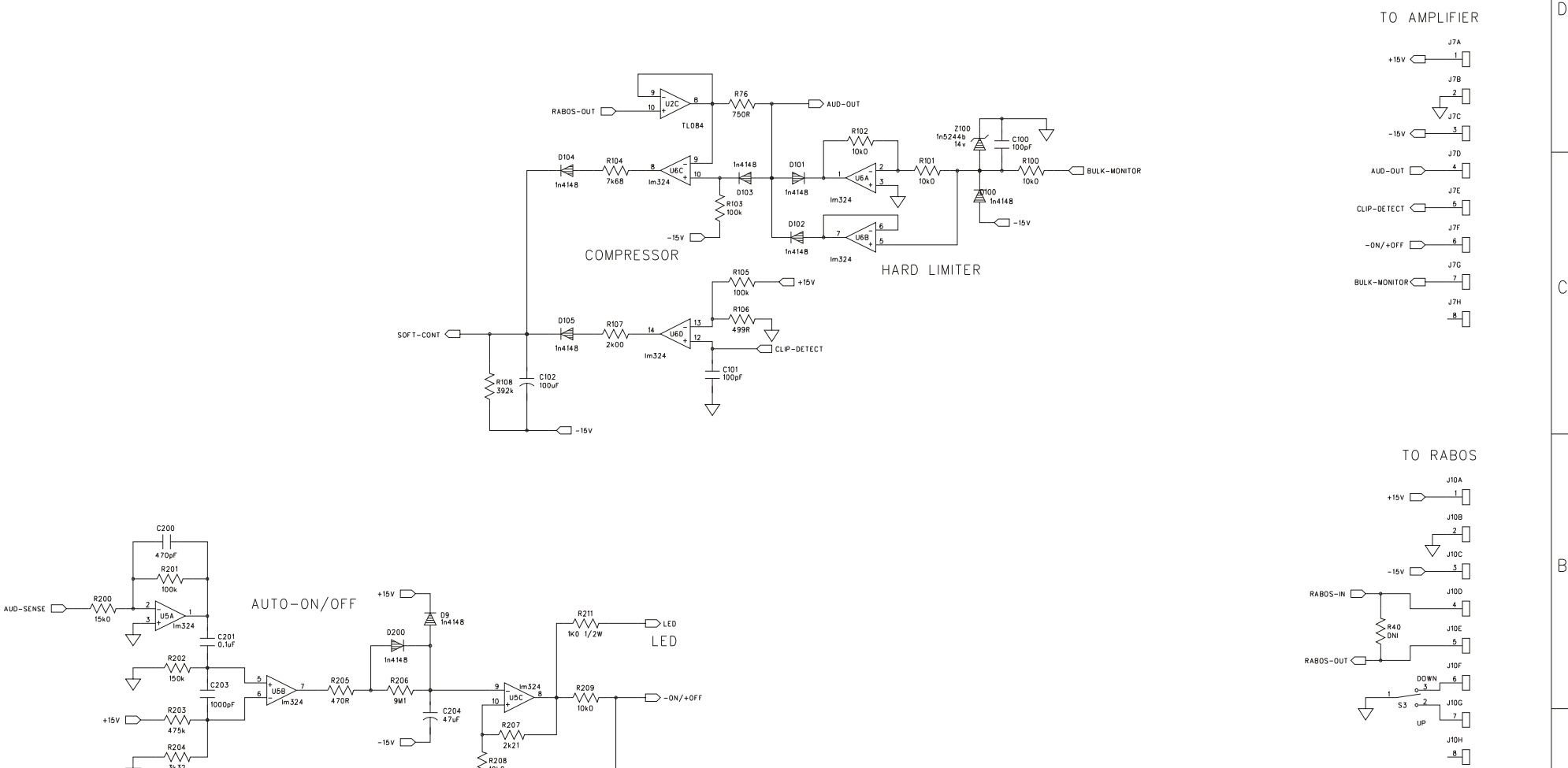

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Infinity

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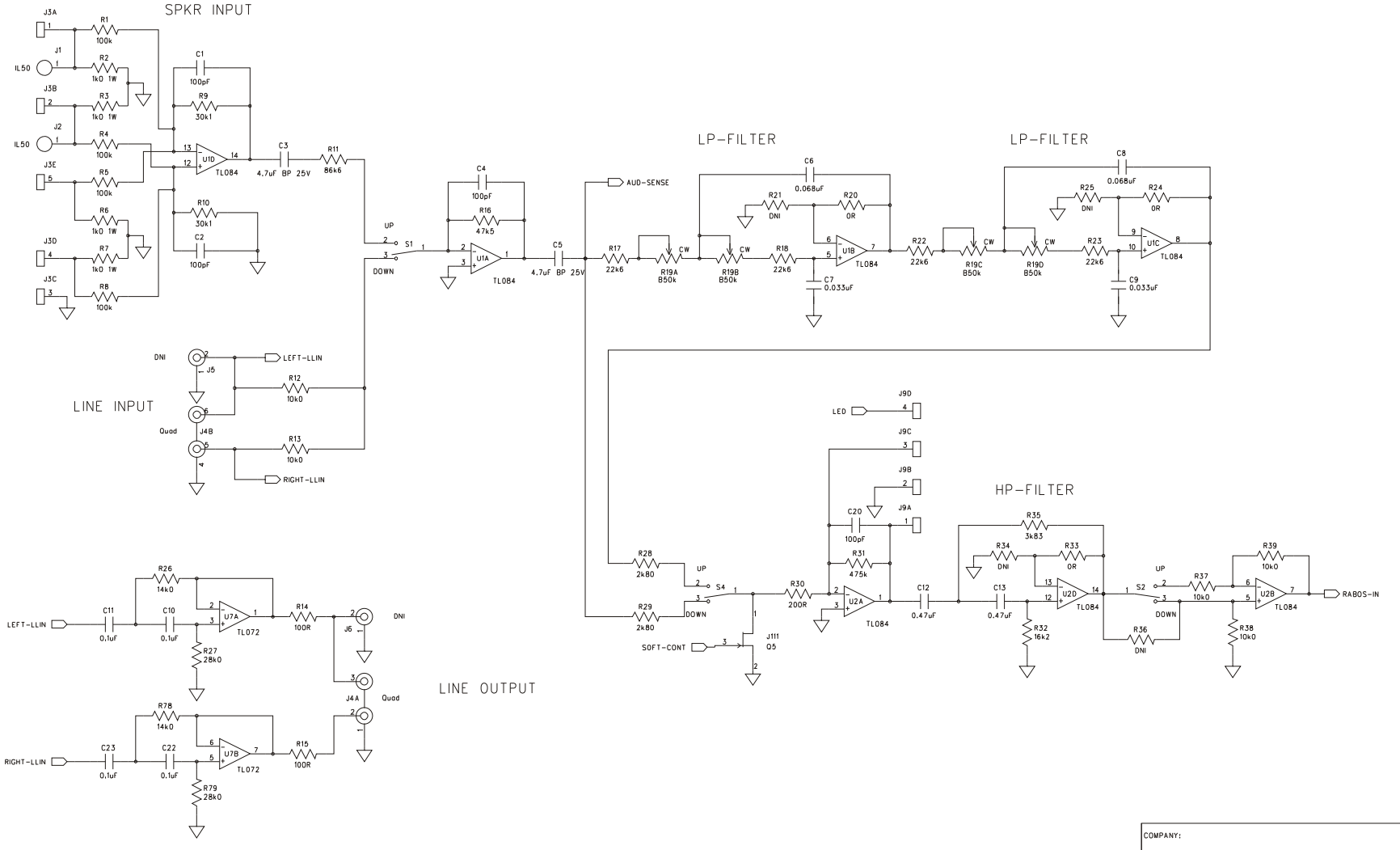

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Infinity

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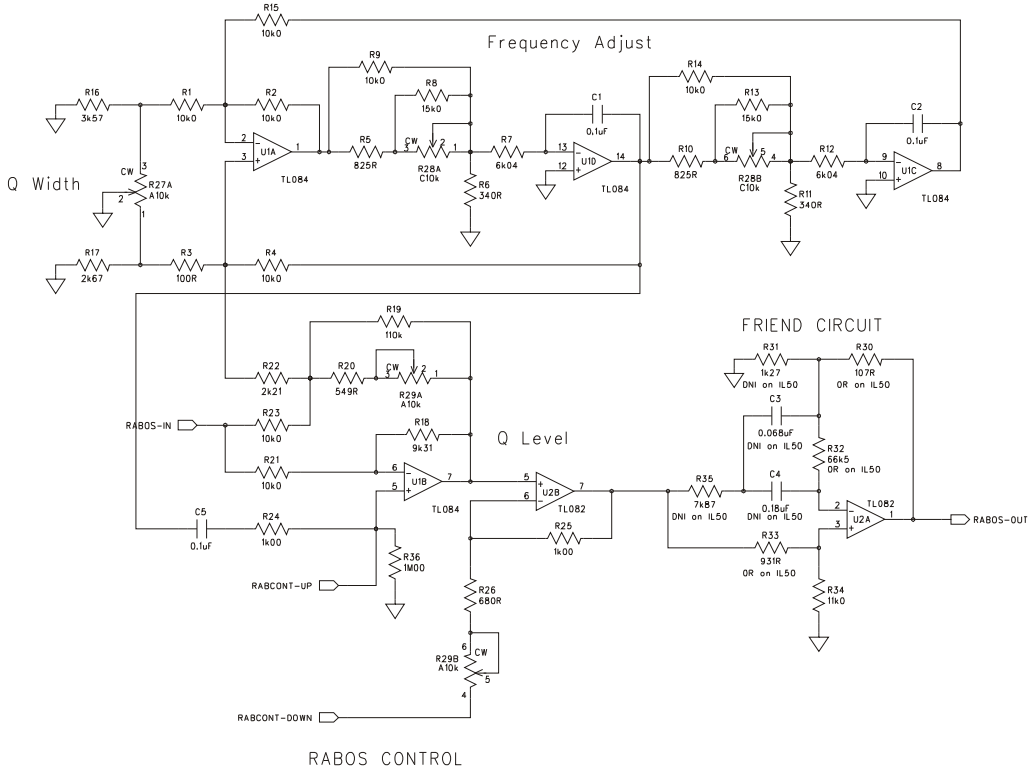

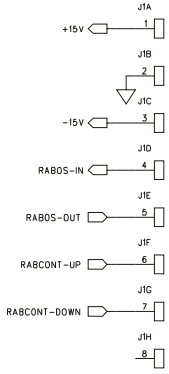

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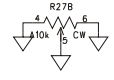

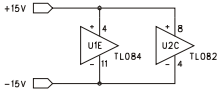

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IL100s

Infinity

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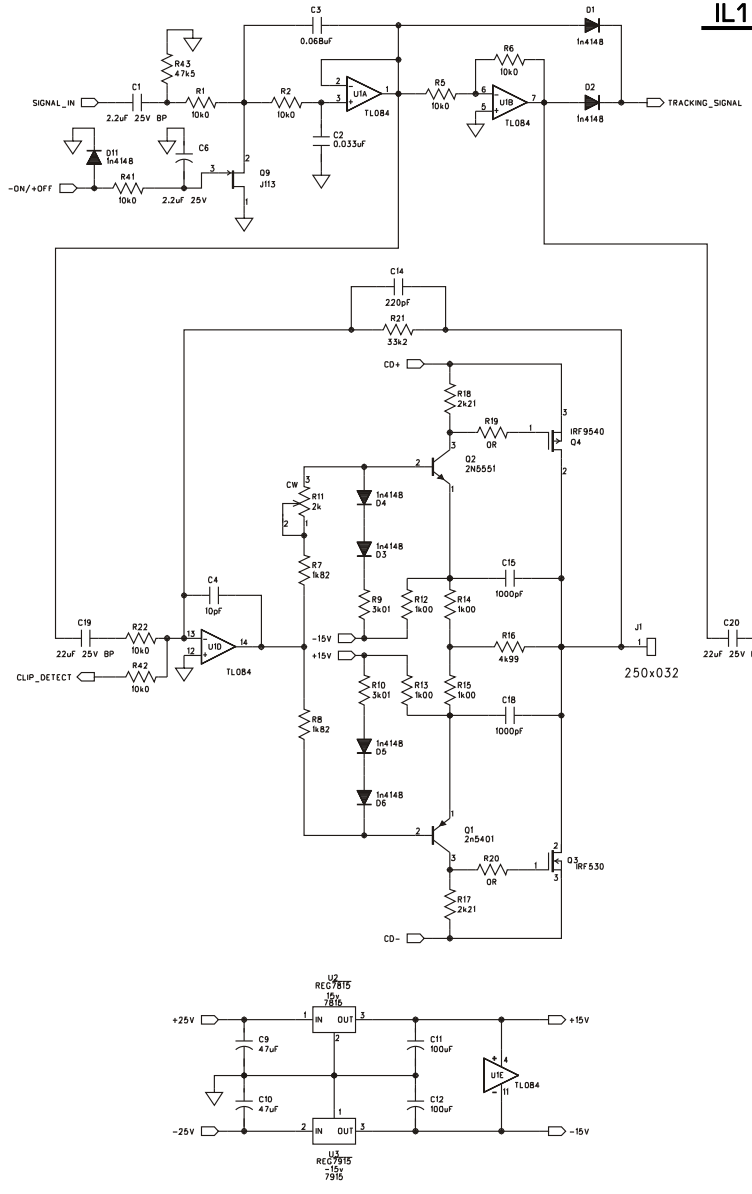

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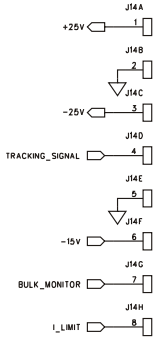

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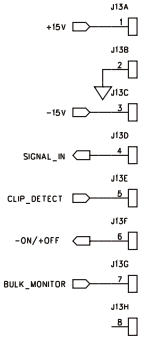
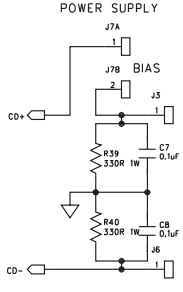


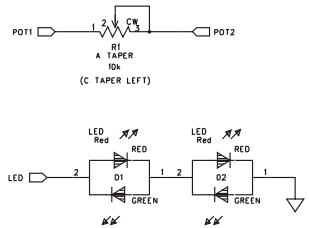
POWER SUPPLY

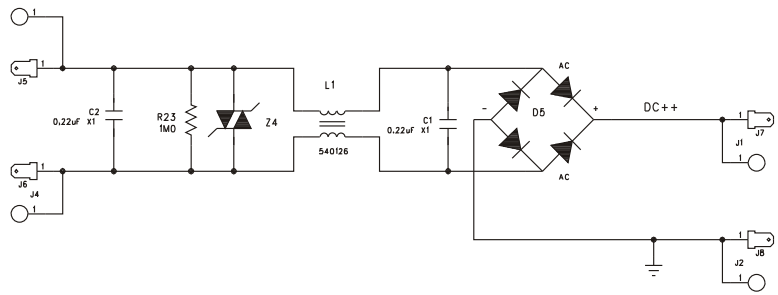


J9 J10

DRAWN: Doug Hansen	DATED: Oct.13.99	COMPANY:	
CHECKED:	DATED:	TITLE: Linear PCB Interlude IL50 & IL100s	
QUALITY CONTROL:	DATED:	CODE:	SIZE: DRAWING NO: SH001107.sch REV: 07
RELEASED:	DATED:	SCALE:	SHEET: 1 OF 1

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:





COMPANY:			
TITLE: Volume-LED PCB (Left & Right) 250W AC-DC and EMI			
DRAWN: Doug Hansen	DATED: Jan.31.00	CODE:	SIZE:
CHECKED:	DATED:	DRAWING NO: SH001201.SCH	REV: 01
QUALITY CONTROL:	DATED:	SCALE:	SHEET:1 OF 1
RELEASED:	DATED:		